

India: 2010 Article IV Consultation—Staff Report; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for India

Under Article IV of the IMF’s Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2010 Article IV consultation with India, the following documents have been released and are included in this package:

- The staff report for the 2010 Article IV consultation, prepared by a staff team of the IMF, following discussions that ended on November 17, 2010, with the officials of India on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on December 6, 2010. The views expressed in the staff report are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF.
- A Public Information Notice (PIN) summarizing the views of the Executive Board as expressed during its December 22, 2010 discussion of the staff report that concluded the Article IV consultation.
- A statement by the Executive Director for India.

The policy of publication of staff reports and other documents allows for the deletion of market-sensitive information.

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INDIA

Staff Report for the 2010 Article IV Consultation

Prepared by the Staff Representatives for the 2010 Consultation with India

Approved by Masahiko Takeda and Tamim Bayoumi

December 6, 2010

- **Mission.** A staff team consisting of M. Takeda (head), L. Papi, R. Guimarães, J.P. Walsh (all APD), X. Wu (MCM), and S. Panth (Senior Resident Representative) visited Delhi, Hyderabad, and Mumbai from November 1 to 17, 2010. Messrs. Virmani and Patra (OED) joined the mission.
- **Outlook and risks.** India's growth outlook is favorable both in the near and medium term, as domestic demand drivers remain strong: investment, especially in infrastructure, is rising rapidly and consumption is buoyed by rising rural incomes and urbanization trends. Risks stem mainly from weaker global growth.
- **Key policy issues.** The main near-term policy issue is elevated inflation. Achieving the government's medium-term fiscal consolidation targets while increasing infrastructure and social spending will be challenging. A range of reforms are needed, including in the financial area, to achieve the authorities' ambitious goals in infrastructure.
- **Past advice.** In the last consultation, the authorities broadly agreed with the Fund's advice that India's vigorous recovery required an earlier exit from the stimulus implemented during the crisis than most other countries. They also concurred on the policy priorities over the longer term, chiefly fiscal consolidation and financial sector reforms.
- **Exchange rate regime.** Floating. India is an Article VIII country, but maintains restrictions subject to approval under Article VIII: these restrictions have not been approved by the Executive Board.

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EXECUTIVE SUMMARY

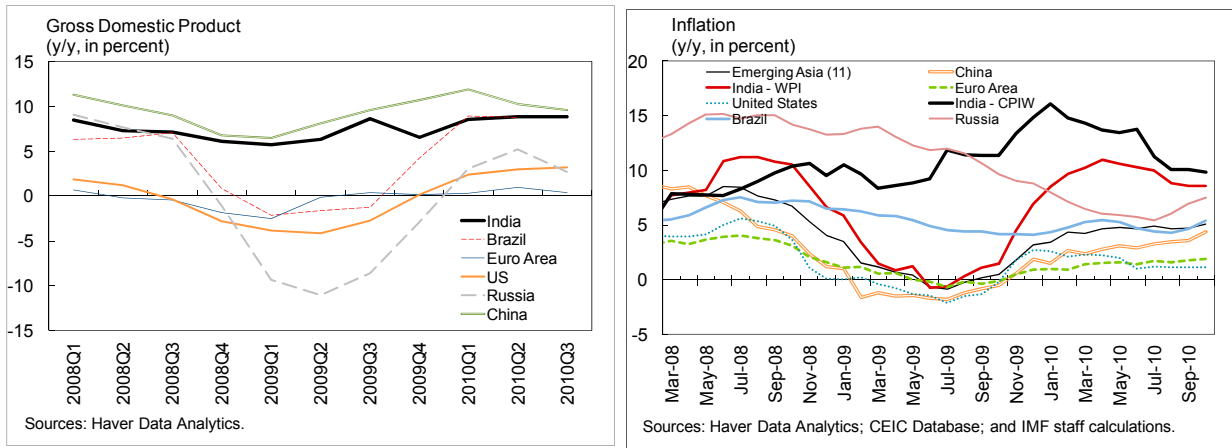
Context: India's economy has recovered from the crisis and is performing well, but inflation remains elevated. Robust domestic demand combined with weak growth in advanced countries is widening the current account deficit. Risks to growth are broadly balanced, with downside risks relating mainly to the global economy. Capital inflows so far are manageable, but could complicate macroeconomic management. The medium-term outlook is favorable, with growth expected to be underpinned by high investment and productivity gains.

Policy messages:

- Robust growth and elevated inflation warrant prompt action in completing the normalization of the monetary and fiscal stance.
- Further monetary tightening is needed to meet the RBI's inflation objectives and anchor inflation expectations.
- The government's renewed commitment to fiscal consolidation is welcome. Not only would tighter fiscal policy be the best way of cooling the economy, but this year's receipts overperformance offers an opportunity to reconstitute fiscal space faster.
- Spending reforms will be critical to square the consolidation objectives with the need for higher infrastructure and social spending. Implementing the tax reforms in the works could also contribute.
- The authorities are rightly monitoring the current account deficit, as the potential impact of a reversal in capital inflows has risen.
- India's flexible exchange rate serves the country well in managing capital inflows. If inflows become excessive, a wide array of tools could be used.
- Efforts to facilitate infrastructure investment, especially measures to deepen the corporate bond market, are bearing fruit and will need to be sustained to meet the authorities' ambitious goals in this area.

I. Context: Rapid Growth and Elevated Inflation

1. **India's growth remains among the highest in the world.** Since mid-2009 the pace of India's recovery—led by domestic demand, especially infrastructure investment—has been strong. Real GDP in Q3 2010 grew at 8.9 percent y/y, with consumption advancing rapidly as well (Figure 1). With little or no slack in the economy, an incomplete exit from the policy stimulus introduced during the crisis, and structural factors affecting food prices, inflation is in the 8½ to 10½ percent range.



2. **The combination of robust domestic demand in India with weak growth and accommodative policies in advanced economies is widening the current account deficit and boosting capital inflows.** Import growth has outpaced the brisk export expansion (Figure 2). Capital inflows have offset the current account deficit so that the nominal effective exchange rate has appreciated only slightly. Unlike several countries in the region, the Reserve Bank of India (RBI) has barely intervened since November 2009.

3. **The government is focused on high and inclusive growth, with economic reforms progressing slowly.** While India has made substantial progress toward achieving the Millennium Development Goals, weaknesses remain in some areas, particularly poverty and malnutrition. The government is pursuing inclusiveness by targeting poverty reduction and several social indicators. Two broad pillars underpin these goals: expanding social programs and a big push for infrastructure development. Other reforms—e.g. concerning taxes, financial legislation, and land acquisition—have been delayed.

4. **Real GDP growth is projected to be above trend at 8¾ percent in 2010/11, with risks broadly balanced.** Infrastructure is likely to remain an important growth driver, and corporate investment is expected to rise as capacity constraints are emerging and funding conditions are conducive. Private consumption should contribute substantially, benefiting from a good harvest after last year's drought as well as urbanization trends. Downside risks to growth stem primarily from weaker global growth, while upside risks relate to accommodative domestic policies maintained for too long. In 2011/12, growth is expected to

revert to potential, estimated at about 8 percent. Mostly due to base effects, headline inflation (WPI) is projected to decline to 6½ percent (March 2011) compared to the RBI's projection of 5.5 percent; higher food and commodity prices are the key risks. Surging capital inflows could also complicate macroeconomic management.

Authorities' Views

5. **While the authorities forecast slightly lower growth for 2010/11, they expect growth to return to 9 percent quickly.** They project this year's growth at 8.5 percent, but anticipate a return to potential growth from 2011/12, which they estimate at about 9 percent given the high investment ratio and the current levels of efficiency in capital use.

6. **The authorities share the view that the main risks stem from global developments, with a special emphasis on commodity prices.** Lower world growth could dampen the takeoff of corporate investment outside of infrastructure, as a significant portion of the manufacturing industry is now directly or indirectly linked to global markets. Rising commodity prices could compound this effect, as well as weigh on the current account deficit.

II. Policy Discussions

A. Maintaining Macroeconomic Stability

Is inflation a concern?

7. **Despite some moderation, inflation is high and has become generalized.** From a trough of -0.7 percent y/y in June 2009, WPI inflation surged to double digits in early 2010, declining to 8.6 percent y/y in October. Core inflation (WPI excluding food and energy) is at 7½ percent y/y, well above the RBI's medium-term objective. CPI inflation (industrial workers, IW), which has a higher weight on food, is at 9.8 percent y/y. In sequential terms, both WPI and CPI inflation have picked up again. Inflation expectations are above historical averages. Given the economy's momentum and structural pressures on food prices, there are risks that inflation will exceed staff's projections and move to a higher plateau.

8. **Staff analysis suggests significant inflation inertia and rapid transmission of supply shocks to core inflation.** India's inflation is persistent, suggesting that inflation expectations are backward-looking (Annex 1). As in other developing countries, energy and food price shocks feed into core inflation, particularly when there is little slack in the economy.

9. **The RBI has rightly tightened monetary policy, but monetary conditions remain accommodative.** The cash reserve ratio (CRR) has been raised by 100 basis points (bp) and the repo rate by 150 bp to 6.25 percent since December 2009 (Figure 3). There are several measures of real interest rates, but short-term real rates using market forecasts remain

negative or barely positive and some 75-100bp below the level implied by Taylor rule calculations (Annex 2). Financing conditions have hardened only marginally as the rupee has appreciated modestly, capital market issuance has been strong, and lending rates have risen less than policy rates though the transmission is still in train.

10. **Policy rates need to rise to bring the real repo rate clearly into positive territory and in line with historical norms.** Capacity utilization varies across sectors, but staff estimate that the output gap has closed, providing little restraint on pricing power, while fiscal stimulus is only being withdrawn slowly. Services prices and anecdotal evidence suggest that wages are increasing rapidly. Further, growing rural incomes and an inelastic food supply indicate that food prices could soon resume their ascent. Boosting agricultural productivity and reducing policy distortions will also be vital to improve the supply response of food commodities over the medium term.

11. **The RBI has significantly enhanced its communications.** It has increased the frequency of its policy reviews and in its latest review has provided forward guidance on its future actions. These welcome developments help manage expectations. To further anchor expectations, the RBI could publish its one-year ahead inflation forecasts on a rolling basis.

12. **Over time, the RBI could consider giving more weight to the CPI in the conduct of monetary policy.** The WPI is the focus of policymaking, but since 2008 the CPI has at times diverged considerably from the WPI. As food is a major component of households' consumption and food inflation affects core inflation, assigning greater weight to the CPI in policy formulation could increase the impact of monetary policy on inflation expectations. Also, monetary transmission could be strengthened by reducing the width of the policy rate corridor and linking administered savings rates to market rates: these issues are being studied by the RBI.

Authorities' Views

13. **Inflation remains above the RBI's comfort level, and recent increases in food prices may be structural.** Consistent with their lower growth projections, the authorities expect WPI inflation to fall to 5.5 percent by March 2011, but they are concerned about the rise in inflation expectations. Food inflation is now concentrated in high-protein items that account for a growing share of the consumption basket due to rising incomes, suggesting that it is being driven by structural supply-demand mismatches. Higher commodity prices, quantitative easing in developed economies, and structural food inflation domestically and world-wide indicate that the risks to inflation are largely on the upside.

14. **Measures introduced since October 2009 are expected to lower inflation.** The transmission of monetary policy has intensified since mid-2010, when liquidity tightened, pushing the call rate to the upper end of the policy corridor. This, combined with the base rate reform, has led to higher lending rates, which should increase further as banks' funding costs have risen. In addition, some reforms to monetary operations may be implemented after

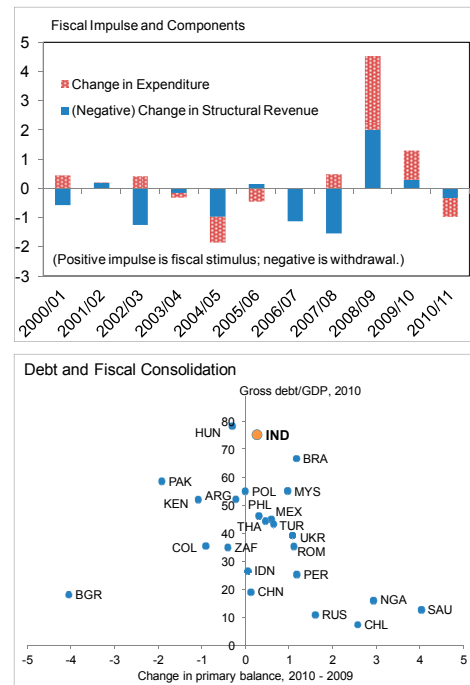
receiving the recommendations of the committee tasked with assessing India's monetary policy framework. Hence, the authorities expect inflation to converge to historical averages of about 5 percent going forward.

15. **The RBI has signaled that the likelihood of further rate actions in the immediate future is low, but this does not rule out further tightening.** Successive rate hikes and the move of the call rate from the bottom to the top of the policy corridor have brought short-term market rates close to a level the RBI considers to be right under current circumstances. Also, falling inflation should bring real interest rates into positive territory by March 2011. With measures already taken yet to have their full effect on financing conditions, particularly at longer maturities, and with technical factors expected to lower inflation in coming months, the RBI is taking stock of the monetary policy transmission that is underway, without prejudging policy actions at the January Review.

16. **The RBI deems that new WPI index remains the most appropriate inflation measure for policy purposes.** While in the long run it may be desirable to express inflation objectives in terms of consumer prices, for the time being the new WPI, with a wider coverage and updated weights, remains the most representative measure of inflation nationwide. Nevertheless, the RBI will continue to evaluate an array of measures of inflation, including asset prices and surveys of expectations, in pursuit of its inflation-related objectives.

Is fiscal consolidation sufficient?

17. **After two years of large deficits, the consolidation targeted for 2010/11 is likely to be met partially by one-off items.** The 2009/10 fiscal deficit was at an estimated 10.4 percent of GDP, with the Center's deficit at 6.8 percent of GDP, which was budgeted to decline to 5½ percent of GDP in 2010/11 (Annex 3). So far this year, both revenue and spending growth have exceeded the budget. With divestment and higher-than-expected proceeds from 3G and wireless spectrum auctions, staff project the fiscal deficit at 5 percent of GDP (authorities' definition). Excluding proceeds of asset sales and auctions (IMF definition), however, the deficit would reach 6½ percent of GDP. The Center's deficit would thus contract less than budgeted, and only about a quarter of the combined fiscal impulse of the past two years would be withdrawn, making India's consolidation one of the smallest among emerging markets (EMs), despite its high public debt.



18. **A commendable first step in fuel price liberalization has been taken and promising tax reforms are in the works.** The government has liberalized gasoline prices and promised eventually to follow suit with diesel prices. The new Direct Tax Code (DTC) retains some of the current incentives while phasing out the major profit-linked business exemptions and rationalizes deduction on savings to broaden the tax base. Agreement on the Goods and Services Tax (GST) has yet to be reached, further delaying the implementation of a structurally sound and modern indirect tax.

19. **To help reduce overheating and reconstitute fiscal space, overperformance in receipts should be saved.** As the recent global crisis has shown, public finances need to overperform in good times to reconstitute fiscal space for countercyclical policy. With several spending measures expiring this year (e.g. 6th Pay Commission arrears), 2010/11 presents an opportunity for greater consolidation, which would facilitate reaching the 2011/12 target. Furthermore, given high government debt and large capital inflows, fiscal consolidation would be the preferred macroeconomic tool to cool the economy.

20. **The government has reiterated its commitment to fiscal consolidation, but achieving future deficit targets will be challenging.** The 13th Finance Commission (FC) called for general government deficits to contract by 4 percentage points of GDP between 2009/10 and 2014/15 and public debt to fall from 79 to 68 percent of GDP—the first time debt is targeted, and a welcome development (Figure 4). At the same time, the FC called for an increase in capital spending of 2½ percentage points of GDP, and for bringing all subsidy outlays above the line. The government's commitment to abide by the FC's deficit targets and to reduce debt to 65 percent of GDP is significant, and the envisaged revenue buoyancy plausible. But the savings assumed in the new Government Debt Report (GDR) on pensions, wages, subsidies, and interest payments could be difficult to achieve as these areas totaled only 8 percent of GDP in 2009/10. On the other hand, states are expected to meet the FC's targets.

21. **Substantial adjustment in current spending will be required to achieve the proposed medium-term consolidation.** International experience suggests that expenditure-based adjustments tend to be more durable, and in India there is significant scope for rationalization. Much will depend on cutting subsidies, both for fuel and fertilizers, and better targeting of spending—the latter could be helped considerably by effective use of the Unique Identification number (UID), which should be exploited as soon as technically feasible. Over the longer term, greater use of performance-based incentives could improve social outcomes. The Finance Minister's call for the Comptroller and Auditor General to report on the quality of expenditure and whether it is achieving its desired objectives is a welcome development.

22. **Building on recent budget reforms could facilitate consolidation.** The GDR strengthens transparency and India's medium-term budget framework. The authorities could also detail their plan quantifying how to fit rising capital and social spending into a budget

envelope that declines as a share of GDP. To minimize the risk of reversals in consolidation, amending the Fiscal Responsibility and Budget Management Act as the FC recommended, including to tighten escape clauses and introduce a fiscal oversight committee, will be key.

Authorities' Views

23. **The authorities are confident of achieving this year's consolidation target of 5.5 percent of GDP for the central government deficit.** They emphasize that the size of the supplementary demands for grants is an outcome of the larger-than-expected receipts. They note that without higher revenue receipts, expenditure would have been kept to budgeted levels, thereby ensuring that the deficit target would still have been met. Noting that much additional spending has gone into priority areas such as rural infrastructure, the authorities emphasize that future spending will remain commensurate with resources. The consolidated general government deficit (authorities' definition) is estimated at 9.7 percent of GDP in 2009/10. Gradually declining levels of debt over the medium term ensure sustainability. Certain characteristics of the existing debt stock, e.g. longer maturity profile, fixed rates, and the lower share of external debt, coupled with economic factors such as high domestic savings rate, put India in a distinct category when compared to developed as well as other EM economies.

24. **The government is committed to the consolidation plan envisaged in the GDR.** The GDR lowers the medium-term debt target to 65 percent of GDP from the 68 percent recommended by the FC. Further, fiscal consolidation should be seen in the context of India's rapid growth. Strong growth will boost revenue, which the authorities expect to contribute to the envisaged consolidation, along with the expenditure items specified in the GDR (wages, pensions, interest, and subsidies), which will continue to decline as a share of GDP.

25. **Streamlining expenditures will be an important contributor to this consolidation.** The authorities expect to continue to reduce subsidies as a percentage of GDP. Further, growth in social sector programs will be taken up without affecting the fiscal consolidation process. Finally, the introduction of UID is expected to provide a major boost to targeting of social programs, both for those currently underway as well as any expansion of food programs.

Other systemic issues

26. **The current account deficit warrants monitoring.** It is projected to reach 3.3 percent of GDP in 2010/11 and 3.5 percent next year (Annex 4). As the deficit rises, so does the potential impact of a sudden stop or reversal of capital flows, requiring vigilance. However, investment is the main driver, and the deficit has so far been financed mainly by FDI and equity inflows. A further rise in the current account deficit can be avoided over the medium term if India's exports continue to gain market share and investment leads to higher

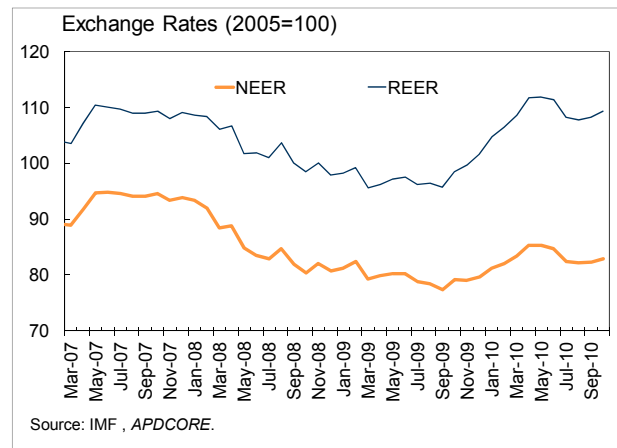
productivity. Finally, India's external vulnerability indicators continue to compare well to other EMs, with external debt at only 20 percent of GDP.

27. **A key risk stems from capital inflows exceeding the country's absorptive capacity by a large margin.** At 4 percent of GDP during the past year, current inflows do not appear to pose problems. But with low yields in advanced economies and favorable growth differentials, capital inflows could become significantly larger. Absorptive capacity is difficult to pinpoint, but inflows could be deemed to exceed it if they surpass the current account deficit norm, or put significant pressure on the exchange rate, asset prices, and monetary and credit aggregates.¹

28. **Exchange rate flexibility should continue to be the first line of defense, while reserve accumulation and selective administrative measures might become appropriate if inflows surge.** According to the IMF's CGER, the rupee is valued broadly in line with fundamentals. This is also consistent with

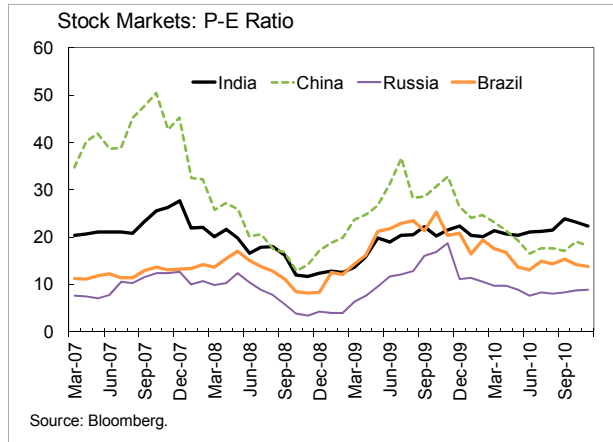
the fact that the real effective exchange rate has appreciated modestly over the last five years and is only 6 percent above its 10-year average, despite India's strong growth during the same period. Hence, some appreciation would not be disruptive for the economy, and would reduce incentives for additional inflows. Tighter fiscal policy would also reduce the real appreciation. Further, absorptive capacity could be expanded by deepening

domestic financial markets, such as by continuing to increase share supply (for example by increasing the minimum float requirement for state enterprises) and further developing the corporate bond market. Liberalizing FDI would have similar effects. These measures would dampen the impact of inflows on asset markets, direct those inflows to productive uses, and encourage longer-term and less volatile flows. But if the appreciation is persistent and excessive, and capital inflows too large and volatile, other options can include sterilized intervention, raising the CRR, and macroprudential measures. India already has a framework of capital controls, especially on debt, so introducing new controls should be a last resort: if necessary, existing external commercial borrowing (ECB) regulations could be tightened, as the authorities have done in the past.



¹ The current account deficit norm for India is estimated to be about 3.5 percent of GDP based on the empirical relationship between the current account and relative productivity growth, the fiscal position, and demographic trends.

29. **The equity market has recently gathered momentum, as has the residential real estate market, prompting the RBI to rightly tighten macroprudential regulations.** Partly because portfolio equity is the type of investment most open to foreign investors, equity prices have outperformed other BRICs and valuation ratios are approaching historical highs. Residential real estate, which is much less linked to foreign inflows, has recovered smartly, while the commercial and retail segments remain soft. The RBI has remained vigilant and recently tightened prudential norms on residential mortgages. More action could be warranted if asset markets were to become exuberant.



30. **The banking system has been resilient, and vigilance on asset quality and liquidity risk is being exercised.** The recovery has improved the credit profile of restructured assets, banks have significantly reduced their exposure to unsecured retail lending, and stress tests indicate that doubling of non-performing loans (NPLs) would leave banks above the regulatory minimum capital requirement (Annex 5). Market indicators have improved. Nevertheless, NPLs have inched up and asset/liability mismatches have increased as deposit growth has lagged credit growth and infrastructure loans and residential mortgages have expanded the fastest. Monitoring asset quality and raising provisioning coverage remain priorities, as well as strengthening risk management and credit assessment capabilities, especially as prudential norms for infrastructure are being eased to promote much-needed investment in this area.

31. **With the increasing sophistication of the Indian financial system, monitoring risks in an integrated fashion and ensuring a regulatory level playing field pose challenges for regulators.** Non-bank financial companies (NBFCs) are expanding more rapidly than banks, infrastructure NBFCs have been introduced, and both interconnectedness and product competition across institutions are intensifying. The authorities have taken welcome steps, such as efforts to prevent regulatory arbitrage, the new supervision framework for financial conglomerates, the introduction of the RBI's Financial Stability Report, and the announced review of financial laws and the Financial Stability and Development Council (FSDC). The FSDC will have to balance the independence of regulators with the need to resolve regulatory disputes and differences of views on financial reforms. The forthcoming FSAP could also contribute with a comprehensive assessment of financial stability and development priorities. The authorities are also encouraged to continue their efforts toward anti-money laundering and combating the financing of terrorism (AML/CFT), including by implementing the recommendations of Financial Action Task Force's AML/CFT Mutual Evaluation Report.

Authorities' Views

32. **The authorities believe the widening of the current account deficit is transitory.** They agree that if current growth differentials between India and advanced economies persist, the deficit could be somewhat higher this year and next than in 2009/10. The RBI deems a deficit above 3 percent of GDP is difficult to sustain over the medium term, and will focus policies on reducing the medium-term deficit to this level, while ensuring financing for a larger short-term deficit relies mainly on long-term and stable capital inflows.

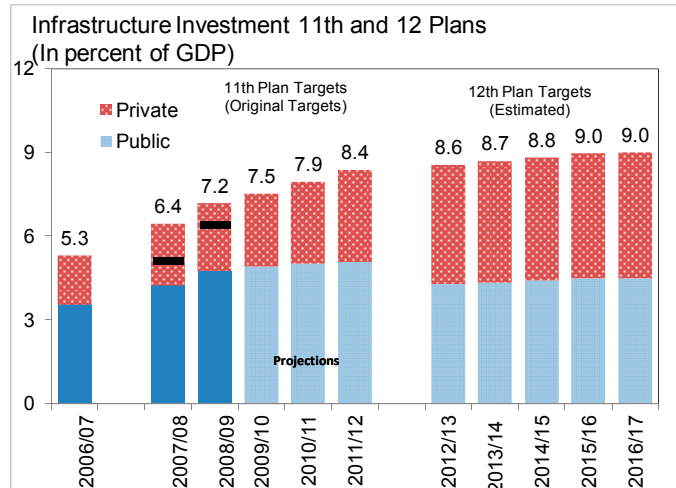
33. **Policymakers draw a distinction between the positive role that capital inflows can play in powering growth, and short-term risks that large and volatile capital inflows can entail.** Current inflows are within the country's absorptive capacity and some further increase can be managed with conventional policy responses. At the same time, the expectation of further quantitative easing in advanced economies could result in large capital inflows, exchange rate appreciation, and rising asset prices in India as in other EMs. The RBI will also continue to use macroprudential tools to modulate asset prices. Unlike many other countries, India has liberalized capital inflows since the crisis in line with the need to finance investments and its long-term policy objectives, and does not plan to reverse course unless capital flows exceed current levels by a large margin.

34. **The financial system at the current juncture is largely stable.** Concerns about asset quality are mitigated by high capital adequacy, which exceeds 14 percent with tier one at 10 percent, and increased provisioning cover. The RBI does not see systemic risks emanating from a possible increase in NPLs of microfinance institutions. Liquidity risk is manageable given the statutory liquidity requirement, the CRR, and the fact that the business model of Indian banks remains centered on retail deposits. The RBI has issued new guidelines on asset liability management, including management of interest rate risk. Steps are being taken to strengthen macro-prudential surveillance, minimize regulatory arbitrage across types of institutions, improve information systems to monitor interconnectedness, and strengthen supervision of non bank institutions. The FSDC is expected to make an important contribution in this area.

B. Structural Change and Reform: the Infrastructure Challenge

35. **The Indian authorities have emphasized infrastructure and human capital investment to reach their goal of 9-10 percent GDP growth over the medium term, and reiterated this to the G-20.** These investments would alleviate supply constraints, as well as support private demand and contribute to strong, sustainable, and balanced global growth. Based on a variety of methods, staff currently estimates India's potential growth rate at 7½-8½ percent. Infrastructure and human capital investment could help raise this.

36. **The shift toward infrastructure that began in 2007 will have to continue to attain the authorities' ambitious plans.** The Mid-Term Appraisal (MTA) of India's 11th Plan (2007/08 to 2011/12) points out that aggregate targets were exceeded in 2007/08 and 2008/09 because of strong investment in telecoms and pipelines, while roads, railways, and ports have lagged. The MTA calls for a continued sizable increase in



infrastructure investment by 2011/12 to attain the five-year target of around US\$500 billion. The 12th Plan (2012/13-2016/17) has not yet been formulated, but a mooted figure of US\$1 trillion would boost infrastructure investment to 9 percent of GDP, while private participation would be targeted to rise to half the total.

37. **There are several roadblocks to achieving the infrastructure targets and higher growth.** These include availability of finance or financing instruments, for which several measures have been taken (see below), as well as land acquisition, multiple clearances, capacity constraints, governance issues, along with various sector-specific concerns. Structural reforms in these areas would lower the cost of infrastructure, encourage private investment, and allow more efficient use of public resources.

38. **A staff study shows that in most EMs infrastructure booms are financed publicly, but private sector participation has risen with increased financial sophistication (Annex 6).** Looking specifically at four major EMs (China, Brazil, Chile, and Korea) provides some lessons for India. Fiscal consolidation will be important to free public resources for investment in areas where private participation will not be forthcoming, such as urban infrastructure and power distribution: Korea and Brazil, especially, have relied on budgetary resources and public development banks. In China, local governments have played a key role, including by using proceeds from land premia to defray some costs. Mobilizing private sector funds in Chile, China, and Korea required a cultivation of institutional investors, credit enhancements, and reducing regulatory risk, while Chile's success in intermediating foreign savings depended on its open business environment and well-developed financial markets.

39. **India's favorable demographics should ensure sufficient domestic savings for infrastructure investment over the medium term, but foreign savings also need to rise in the near term.** Private savings are likely to continue rising gradually (Annex 7). Public savings are also expected to rise, but reaching the public sector infrastructure goals while meeting the fiscal consolidation roadmap will require strict containment of unproductive

spending. In the near term, overall domestic savings may be insufficient to meet the investment increase, necessitating a transitory widening of the current account deficit. To ensure that foreign capital flows to infrastructure projects, the recent increase in foreign institutional investors (FII) debt limits is welcome,² and could be further extended as the limits approach their full utilization.

40. **Ensuring more efficient intermediation of domestic savings will require sustained efforts toward financial reforms.** Significant progress has been made in developing the corporate bond market, which has seen increased issuance and turnover. Also, some takeout finance transactions have taken place and foreign investors have been allowed to provide credit enhancements. But much greater participation by domestic institutional investors in the bond market and infrastructure funding is still needed, which depends on changing investment allocations and reducing the public sector borrowing requirement. At the same time, credit enhancements will be important to maintain investor protection. Continuing to boost bond market liquidity and develop securitization and hedging instruments both remain important to ensure sufficient long-term rupee debt resources are available to finance India's investment needs, while helping banks manage their liquidity and concentration risks. Financial inclusion will allow more savings to be intermediated through the financial system. The New Pension System will raise contractual savings, but this will take time.

41. **Large infrastructure projects also raise opportunities for large rents to be sought by all players, which can be mitigated by robust frameworks and transparency.** Other countries' experience suggests that large investment drives can be accompanied by weakening governance standards and incentives can be distorted so that risks are predominantly borne by the public sector. Strengthening accountability systems, bolstering transparency, and increasing competition could help mitigate these risks.

Authorities' Views

42. **The authorities broadly agree with staff's assessment of India's progress on infrastructure.** Under the 11th Plan the private sector has contributed about 30 percent of financing so far, and it is expected that under the 12th Plan private participation will have to rise to half, making India's Public-Private Partnership program one of the most ambitious in the world. The authorities expect a financing shortfall in the coming years unless more long-term debt sources can be mobilized.

43. **Recognizing this, the authorities are engaged in a focused effort to remove the remaining bottlenecks to the development of the corporate debt market.** The authorities

² In September 2010, FII debt limits were raised by \$10 billion in bonds with a residual maturity greater than 5 years.

are also working on expanding the domestic investor base, trying to tap retail investors and increasing bank participation, as well as creating a robust system of market makers.

44. **The authorities' infrastructure agenda has moved forward in other areas as well.** Land acquisition, particularly in culturally or environmentally sensitive areas, is a challenge, but the government is considering ways to expedite implementation of infrastructure projects, while minimizing displacements and improving compensation assessments. Speeding up approval processes is complicated, but the introduction of standardized PPP contracts for roads and ports, as well as a national program for capacity building in PPP formulation at the state level, should begin to ease these bottlenecks.

III. Staff Appraisal

45. **India's growth remains among the strongest in the world and its medium-term prospects are favorable.** The economy is expected to grow above trend this year and to continue to expand rapidly over the medium term, supported by high investment and productivity gains. Social indicators are improving, consistent with the authorities' goal of inclusive growth. Risks to growth are broadly balanced.

46. **Robust growth and elevated inflation warrant prompt action in completing the normalization of the monetary and fiscal stance.** The authorities have started a calibrated exit from expansionary policies implemented during the global crisis. The overperformance in this year's central government budget presents an opportunity to reconstitute fiscal space faster and reduce the risk of overheating, particularly as fiscal policy is the preferred focus for policy tightening given the high level of government debt and large capital inflows.

47. **Lowering inflation to meet the RBI's objective requires further monetary tightening.** Over the last year, the RBI has raised policy rates and the CRR, and the transmission to long-term rates is still taking place. But further increases in policy rates are needed to bring real short-term interest rates in line with historical norms. India's controls on debt flows are expected to dampen the effect of wider interest rate differentials on capital inflows. More rapid withdrawal of fiscal stimulus would have helped contain demand pressures, but in its absence, a greater burden falls on monetary policy to cool the economy and counter prevailing perceptions that inflation has shifted to a higher level.

48. **The government's renewed commitment to fiscal consolidation is welcome, but spending reforms will be needed.** The government has laid out an ambitious roadmap to reduce public debt and deficits. High growth is expected to contribute toward this goal, but the need to raise public investment, especially in infrastructure, and expand social programs will make this challenging. With the tax reforms designed to be revenue neutral, subsidy reform will have to continue, especially by liberalizing diesel and fertilizer prices, and spending efficiency will have to improve. Strengthening budget frameworks along the FC's recommendations will be important to minimize the risk of reversals in fiscal consolidation.

49. **The authorities are rightly monitoring the current account deficit.** The current account deficit has been financed mainly by FDI and equity flows and is expected to narrow over the medium term as exports expand on the back of productivity gains. However, the potential impact of a reversal in capital inflows has risen, requiring vigilance.

50. **India's flexible exchange rate serves the country well in managing capital inflows.** So far, the rupee has appreciated only modestly and is deemed to be broadly in line with fundamentals. Nevertheless, given yield and growth differentials, capital inflows could exceed India's absorptive capacity by a large margin. If so, exchange rate appreciation should remain the first line of defense. Were appreciation to become too large, sterilized intervention or macroprudential measures could also be taken. Over time, deepening the corporate bond market, increasing the supply of shares, and further liberalizing FDI would increase absorptive capacity and the share of relatively stable capital inflows.

51. **Financial policies and reforms are balancing financial stability considerations with the need to finance investment and growth.** Although the financial sector has been resilient and is benefiting from robust growth, the authorities' vigilance on asset quality and liquidity risk is appropriate. Deeper interconnectedness, increasing sophistication of the Indian financial system, as well as the measures taken to promote infrastructure financing, will continue to put a premium on integrated supervision.

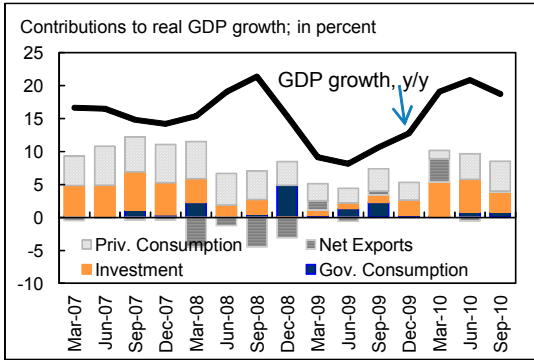
52. **Efforts to facilitate infrastructure investment are bearing fruit and will need to be sustained to meet the authorities' ambitious goals.** While domestic savings are expected to rise due to India's favorable demographics and rapid growth, greater recourse to foreign savings is also likely needed in the near term. More efficient intermediation of domestic savings will require continued financial reforms, chief among these a vibrant corporate bond market, which has shown considerable development. Lowering the costs of doing business—especially by streamlining land acquisition, addressing governance issues, and reducing red tape—is also critical to boost private sector participation in infrastructure.

53. **It is recommended that the next Article IV consultation take place on the standard 12-month cycle.**

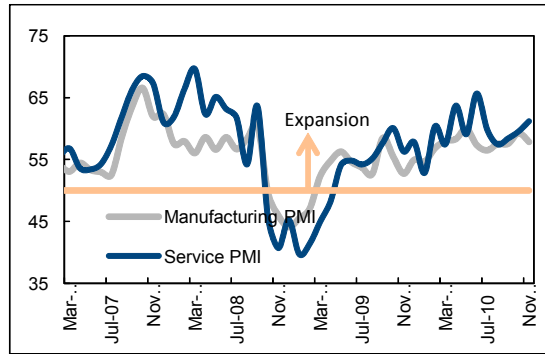
Figure 1. India: Conjunctural Developments

Growth is strong and inflation has remained elevated.

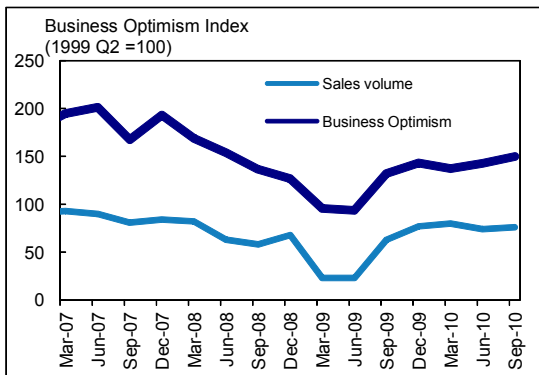
GDP growth has relied mainly on domestic demand...



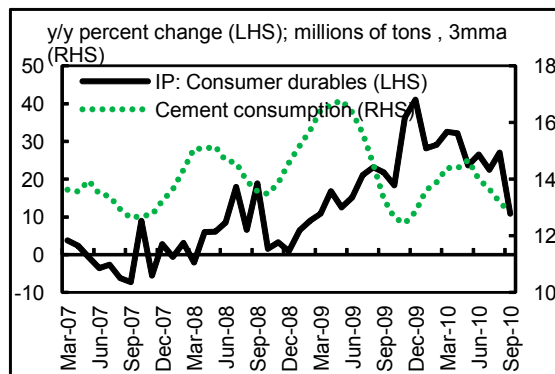
...and high frequency indicators continue to point to robust growth going forward.



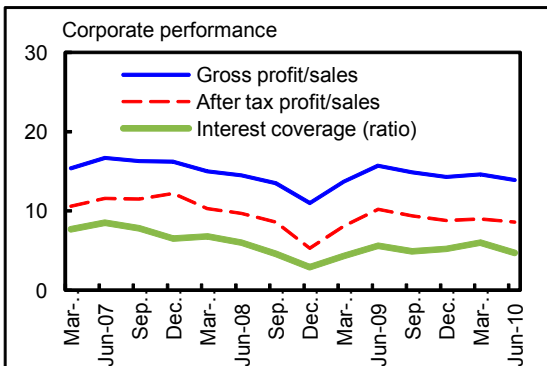
Confidence remains strong as corporate sales volumes have rebounded.



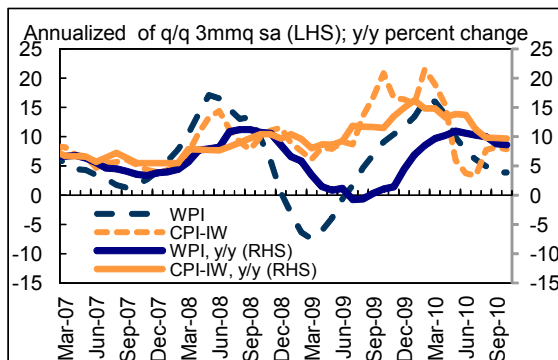
Consumer durables and cement production also suggest buoyant domestic demand.



The economy's strength has boosted corporate performance...



...but inflationary pressures have also risen significantly.

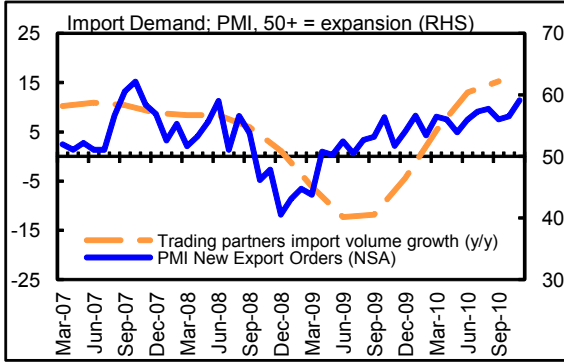


Sources: Haver Analytics; CEIC Data Company Ltd.; Bloomberg L.P.; and IMF staff calculations.

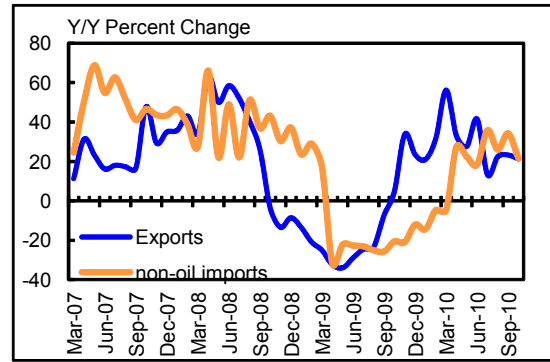
Figure 2. India: External Developments

As domestic demand boosted imports, the current account deficit has widened.

Reflecting rebounding external and domestic demand growth...

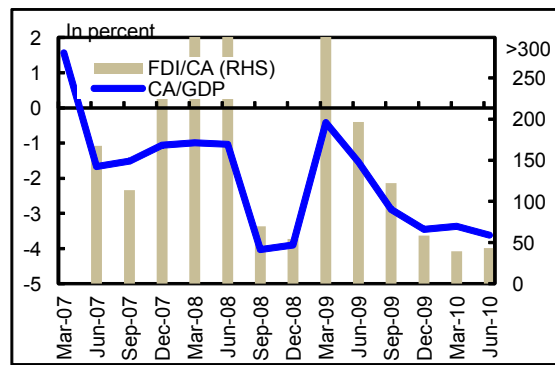
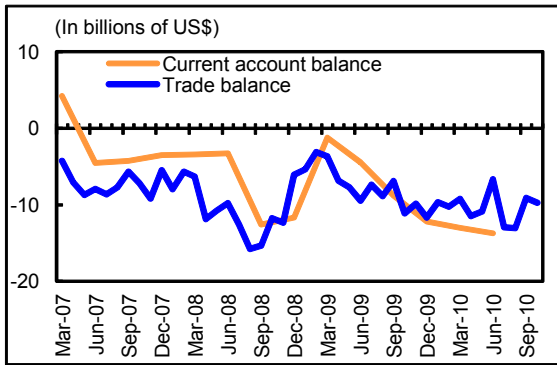


...export and nonoil import growth has accelerated,



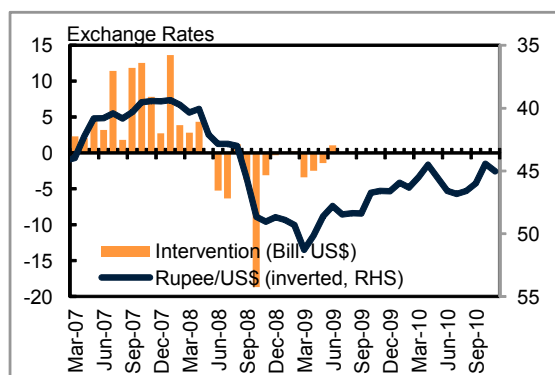
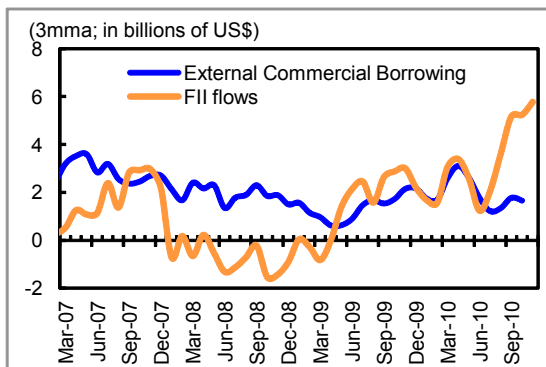
leading to a widening of the trade and current account deficits.

FDI inflows still cover nearly half of the current account deficit...



...and portfolio inflows have also picked up substantially.

With no RBI intervention until September, the rupee has appreciated, but it is still lower than pre-crisis levels.



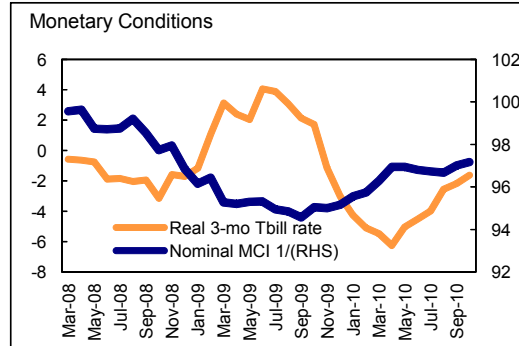
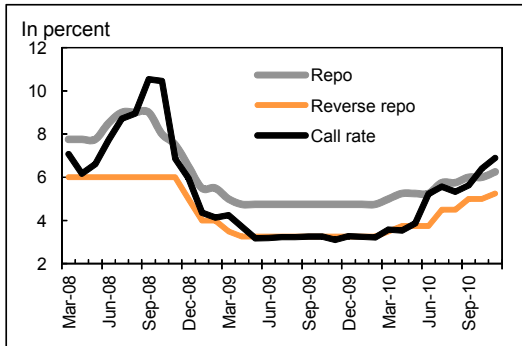
Sources: CEIC Database; Haver Analytics; and IMF staff calculations.

Figure 3. India: Monetary and Financing Conditions

Monetary settings remain accommodative and financing conditions favorable.

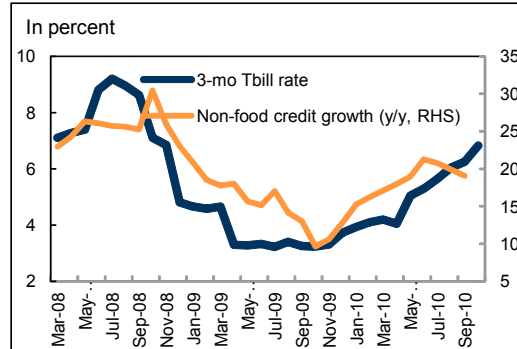
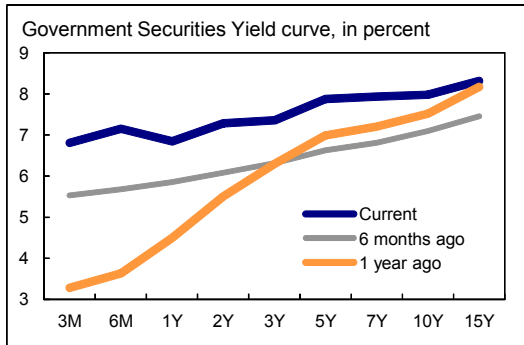
The call money rate has increased by more than policy rates and currently hovers above the repo

Monetary accommodation has been removed only gradually.



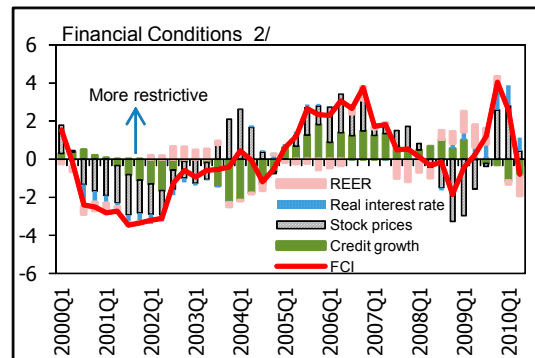
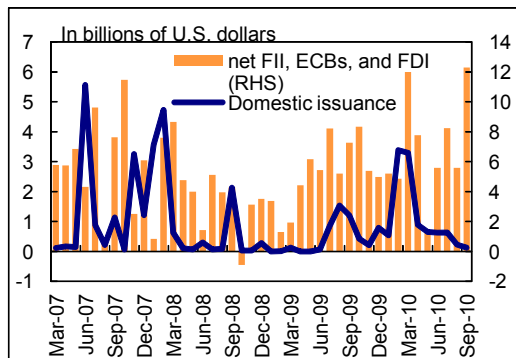
The yield curve has flattened as a result of rising short-term rates

Credit growth has picked up even as interest rates started to go up...



Domestic issuance and capital inflows have been strong...

...and overall financial conditions have improved.



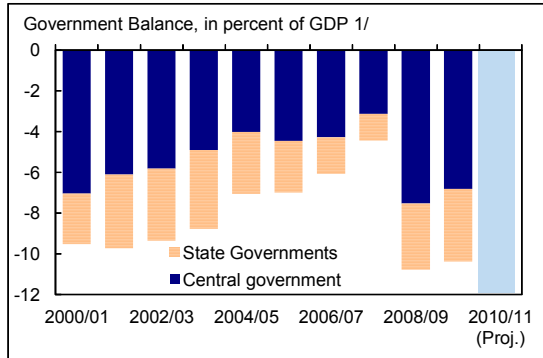
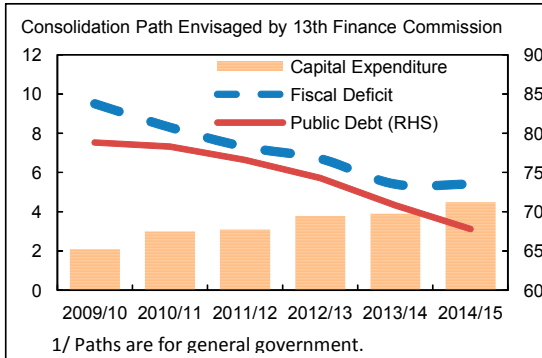
Sources: Reserve Bank of India; Bloomberg L.P.; CEIC Database; and IMFstaff calculations.
 1/ The MCI is based on average of repo and reverse repo rate and the NEER; April 1993=100.
 2/ The Financial Conditions Index (FCI) combines external and domestic financial indicators based on their relative contributions to economic activity.

Figure 4. India: Fiscal Indicators

Reaching consolidation targets will be challenging.

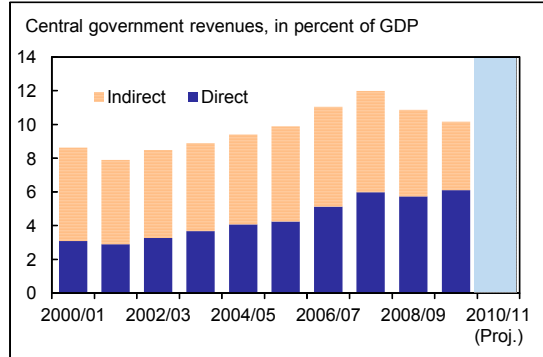
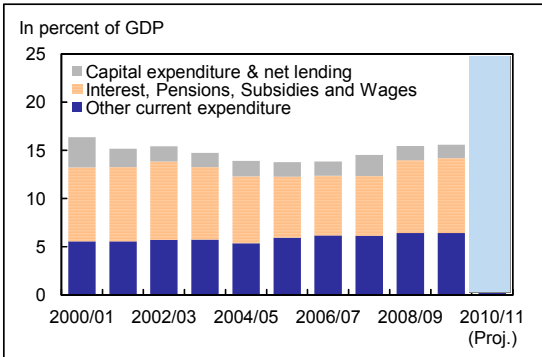
The government aims to reduce debt over the medium term while raising capital spending.

Attaining this requires a reversal of the large deficits of the past two years and a return to the 2002/03-2007/08 consolidation path.



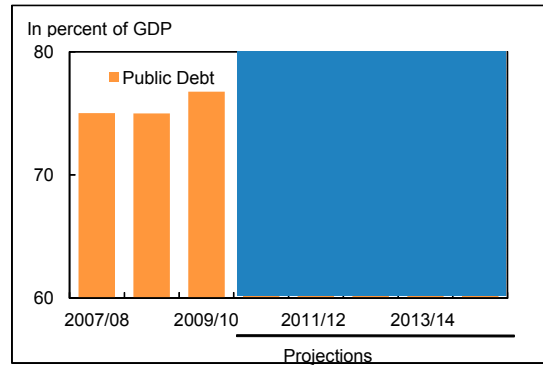
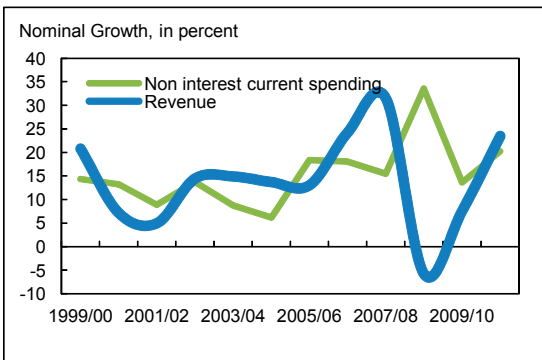
Target areas will have to be rationalized, but savings will also have to be found elsewhere.

Revenue buoyancy might help, particularly after proposed tax reforms.



Controlling current spending will be key.

Nevertheless, attaining the targets will be a challenge.



Sources: Country authorities; CEIC Database; and IMF staff calculations.
1/ Includes subsidy-related bond issuance.

Table 1. India: Millennium Development Goals, 1990–2009 1/

	1990	2004	2006	2008	2009
Eradicate extreme poverty and hunger 2/					
Income share held by lowest 20%	...	...	...	...	...
Malnutrition prevalence, weight for age (% of children under 5)	...	43.5	...	...	...
Poverty headcount ratio at national poverty line (% of population)	...	27.5	...	...	...
Prevalence of undernourishment (% of population)	...	...	...	...	...
Achieve universal primary education 3/					
Literacy rate, youth total (% of people ages 15-24)	61.9	...	...	...	...
Persistence to grade 5, total (% of cohort)	...	...	...	...	...
Primary completion rate, total (% of relevant age group)	63.4	84.2	86.1	...	...
School enrollment, primary (% net)	...	89.8	89.0	...	...
Promote gender equality 4/					
Proportion of seats held by women in national parliament (%)	5.0	9.0	8.3	9.1	10.7
Ratio of girls to boys in primary and secondary education (%)	70.0	90.0	90.2	92.2	...
Ratio of young literate females to males (% ages 15-24)	67.1	...	...	...	...
Share of women employed in the nonagricultural sector (% of total nonagricultural employment)	12.7	17.9	...	...	...
Reduce child mortality 5/					
Immunization, measles (% of children ages 12-23 months)	56.0	61.0	64.0	70.0	...
Mortality rate, infant (per 1,000 live births)	82.7	...	57.8	52.3	...
Mortality rate, under-5 (per 1,000)	116.4	...	77.4	68.8	...
Improved maternal health 6/					
Births attended by skilled health staff (% of total)	...	...	46.6	...	...
Maternal mortality ratio (modeled estimate, per 100,000 live births)	...	...	...	...	...
Combat HIV/AIDS, malaria, and other diseases 7/					
Children orphaned by HIV/AIDS	...	...	...	...	...
Contraceptive prevalence (% of women ages 15-49)	43.0	...	56.3	...	...
Incidence of tuberculosis (per 100,000 people)	167.8	...	...	...	...
Prevalence of HIV, female (% ages 15-24)	...	...	...	...	...
Prevalence of HIV, total (% of population ages 15-49)	...	...	0.3	...	...
Ensure environmental sustainability 8/					
CO ₂ emissions (metric tons per capita)	0.8	1.3	...	...	...
Forest area (% of land area)	21.5	...	22.8	...	...
GDP per unit of energy use (constant 2000 PPP \$ per kg of oil equivalent)	3.2	4.3	4.6	4.9	...
Improved sanitation facilities (% of population with access)	14.0	...	28.0	...	...
Improved water source (% of population with access)	71.0	...	89.0	...	...
Nationally protected areas (% of total land area)	...	...	...	...	...
Develop a global partnership for development 9/					
Debt service (PPG and IMF only, % of exports of G&S, excl. workers' remittances)	...	...	...	...	...
Fixed line and mobile phone subscribers (per 1,000 people)	0.6	...	24.3	...	...
Internet users (per 1,000 people)	...	...	17.8	...	...
Total debt service (% of exports of goods, services and income)	31.7	12.6	7.6	...	...
Unemployment, youth female (% of female labor force ages 15-24)	...	10.8	...	...	...
Unemployment, youth male (% of male labor force ages 15-24)	...	10.4	...	...	...
Unemployment, youth total (% of total labor force ages 15-24)	...	10.5	...	...	...
General indicators					
Fertility rate, total (births per woman)	4.0	3.0	2.9	2.7	...
GNI per capita, Atlas method (current US\$)	370.0	630.0	820.0	1,040.0	...
GNI, Atlas method (current US\$) (billions)	313.7	680.6	914.9	1,186.7	...
Gross capital formation (% of GDP)	24.2	31.6	36.4	39.7	...
Life expectancy at birth, total (years)	58.2	61.9	62.8	63.7	...
Literacy rate, adult total (% of people ages 15 and above)	48.2	...	...	...	...
Population, total (millions)	849.5	1,079.7	1,109.8	1,140.0	...
Trade (% of GDP)	15.7	37.9	47.4	50.7	...

Source: *World Development Indicators* database, October 2010.

1/ In some cases the data are for earlier or later years than those stated.

2/ Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.

3/ Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

4/ Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015.

5/ Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.

6/ Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.

7/ Have halted by 2015, and begun to reverse, the spread of HIV/AIDS. Have halted by 2015, and begun to reverse, the

8/ Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. Halve, by 2015, the proportion of people without sustainable access to safe drinking water. By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.

9/ Develop further an open, rule-based, predictable, non-discriminatory trading and financial system. Address the Special Needs of the Least Developed Countries. Address the Special Needs of landlocked countries and small island developing states. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth. In cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.

Table 2. India: Selected Economic Indicators, 2006/07–2010/11 1/

	2006/07	2007/08	2008/09	2009/10 Prel.	2010/11 Proj.
Growth (y/y percent change)					
Real GDP (at factor cost)	9.7	9.2	6.7	7.4	8.8
Industrial production	11.5	8.5	6.7	10.5	...
Prices (y/y percent change, average)					
Wholesale prices (2004/05 weights)	6.5	4.8	8.0	3.6	8.5
Wholesale prices (2004/05 weights, end of period)	6.8	7.7	1.5	10.2	6.5
Consumer prices - industrial workers (2001 weights)	6.7	6.2	9.1	12.4	10.8
Saving and investment (percent of GDP)					
Gross saving 2/	34.5	36.4	33.9	32.1	34.4
Gross investment 2/	35.5	37.7	36.2	35.0	37.7
Fiscal position (percent of GDP) 3/					
Central government deficit	-4.3	-3.1	-7.5	-6.8	-6.6
General government deficit	-6.1	-4.4	-10.8	-10.4	-9.6
General government debt 4/	77.7	75.0	75.0	76.8	75.0
Money and credit (y/y percent change, end-period) 5/					
Broad money	21.3	21.4	19.3	16.8	17.7
Credit to commercial sector	25.7	21.1	16.9	15.9	20.2
Financial indicators (percent, end-period) 6/					
91-day treasury bill yield	8.0	7.2	5.0	4.4	6.9
10-year government bond yield	8.0	7.9	7.0	7.8	8.1
Stock market (y/y percent change, end-period)	15.9	19.7	-37.9	80.5	15.3
External trade 7/					
Merchandise exports (US\$ billions)	128.9	166.2	189.0	182.2	229.4
y/y percent change	22.6	28.9	13.7	-3.6	25.9
Merchandise imports (US\$ billions)	190.7	257.6	307.7	299.5	380.6
y/y percent change	21.4	35.1	19.4	-2.7	27.1
Balance of payments (US\$ billions)					
Current account balance	-9.6	-15.7	-28.7	-38.4	-49.9
(in percent of GDP)	-1.0	-1.3	-2.4	-2.9	-3.3
Foreign direct investment, net	7.7	15.9	17.5	19.7	23.6
Portfolio investment, net (equity and debt)	7.1	27.4	-14.0	32.4	31.8
Overall balance	36.6	92.2	-20.1	13.4	28.6
External indicators					
Gross reserves (in billions of U.S. dollars, end-period)	199.2	309.7	252.0	279.1	307.7
(In months of imports) 8/ 9/	7.7	10.3	8.4	7.5	7.3
External debt (percent of GDP, end-period)	18.2	18.3	19.1	19.5	19.2
Of which : short-term debt 9/	3.7	6.8	7.5	8.0	8.2
Ratio of gross reserves to short-term debt (end-period) 9/	5.7	3.7	2.8	2.7	2.5
Gross reserves to broad money (percent; end-period)	26.2	30.9	26.6	22.4	...
Debt service ratio 10/	4.9	5.3	5.2	5.0	5.1
Real effective exchange rate					
(y/y percent change, period average for annual data)	-1.7	7.3	-7.7	-0.5	...
Exchange rate (rupee/US\$, end-period) 6/	43.5	40.1	50.7	45.0	45.9

Sources: Data provided by the Indian authorities; CEIC Data Company Ltd; Bloomberg L.P.; *World Development Indicators*; and Fund staff estimates and projections.

1/ Data are for April-March fiscal years.

2/ Differs from official data, calculated with gross investment and current account. Gross investment includes errors and omissions.

3/ Divestment and license auction proceeds treated as below-the-line financing. Subsidy related bond issuance classified as expenditure.

4/ Includes combined domestic liabilities of the center and the states, inclusive of MSS bonds, and external debt at year-end exchange rates.

5/ For 2010/11, as of October 2010.

6/ For 2010/11, as of November 2010.

7/ On balance of payments basis.

8/ Imports of goods and services projected over the following twelve months.

9/ Short-term debt on residual maturity basis, including estimated short-term NRI deposits on residual maturity basis.

10/ In percent of current account receipts excluding grants.

Table 3. India: Balance of Payments, 2006/07–2010/11 1/
(In billions of U.S. dollars)

	2006/07	2007/08	2008/09	2009/10 Prel.	2010/11 Proj.
Current account balance	-9.6	-15.7	-28.7	-38.4	-49.9
Merchandise trade balance	-61.8	-91.5	-118.7	-117.3	-151.2
Merchandise exports	128.9	166.2	189.0	182.2	229.4
Merchandise imports	190.7	257.6	307.7	299.5	380.6
Oil	56.9	79.7	93.7	87.1	106.6
Non-oil	133.7	177.9	214.0	212.4	274.0
Non-factor services balance	29.5	38.9	49.6	34.2	46.4
Receipts	73.8	90.3	101.7	93.8	112.4
<i>Of which</i> : software services	31.3	40.3	46.3	49.7	...
Payments	44.3	51.5	52.0	59.6	66.0
Income, net	-7.3	-5.1	-4.5	-7.4	-2.8
Transfers, net	30.1	41.9	44.8	52.1	57.7
Capital account balance	45.2	106.6	7.2	53.6	78.5
Direct investment, net	7.7	15.9	17.5	19.7	23.6
<i>Of which</i> : direct investment in India	22.7	34.7	35.0	31.7	37.9
Portfolio investment, net	7.1	27.4	-14.0	32.4	31.8
Government borrowing, net	1.8	2.1	2.6	2.0	0.5
Commercial borrowing, net	16.1	22.6	7.9	2.5	10.4
Short-term credit, net	6.6	15.9	-1.9	7.7	7.6
NRI deposits, net	4.3	0.2	4.3	2.9	4.5
Rupee debt	-0.2	-0.1	-0.1	-0.1	-0.1
Other capital, net 2/	1.8	22.5	-9.1	-13.6	0.0
Errors and omissions	1.0	1.3	1.4	-1.7	0.0
Overall balance	36.6	92.2	-20.1	13.4	28.6
Valuation changes 3/	11.0	18.4	-37.7	13.6	0.0
Increase in gross reserve stock (including valuation changes)	-47.6	-110.5	57.7	-27.1	-28.6
Memorandum items:					
Foreign exchange reserves	199.2	309.7	252.0	279.1	307.7
In months of next year's imports (goods and services)	7.7	10.3	8.4	7.5	7.3
Current account balance (percent of GDP)	-1.0	-1.3	-2.4	-2.9	-3.3
Merchandise trade balance (percent of GDP)	-6.5	-7.4	-9.8	-8.9	-10.0
Overall balance (percent of GDP)	3.9	7.5	-1.7	1.0	1.9

Sources: CEIC Data Company Ltd; and Fund staff estimates and projections.

1/ Data are for April-March fiscal years. Indian authorities' presentation.

2/ Net other capital is sum of net banking capital (RBI format) and net other capital (RBI format) less net NRI

3/ Calculated as difference between the stock of reserves and the overall balance of BOP.

Table 4. India: Reserve Money and Monetary Survey, 2006/07–2010/11 1/

	2006/07	2007/08	2008/09	2009/10	2010/11			
					Apr	May	Jun	Sep
Reserve money								
	(In billions of rupees, end-period)							
Reserve money	7,089	9,283	9,880	11,557	11,275	11,594	11,708	11,708
Net domestic assets of RBI	-1,573	-3,078	-2,921	-763	-911	-915	-758	-1,211
Claims on government (net)	24	-1,132	616	2,116	1,897	2,125	2,274	2,226
Claims on commercial sector	15	18	138	13	13	13	15	13
Claims on banks	76	46	104	12	12	12	19	20
Other items (net)	-1,689	-2,010	-3,779	-2,903	-2,833	-3,065	-3,065	-3,471
Net foreign assets of RBI	8,662	12,361	12,801	12,319	12,186	12,509	12,466	12,919
	(Contribution to reserve money growth)							
Reserve money	23.7	31.0	6.4	17.0	17.4	21.1	23.4	25.7
Net domestic assets of RBI	-10.0	-21.2	1.7	21.8	21.8	18.7	25.1	26.9
Claims on government (net)	-1.0	-16.3	18.8	15.2	14.4	16.2	18.6	20.9
Net foreign assets of RBI	33.7	52.2	4.7	-4.9	-4.4	2.4	-1.8	-1.2
Monetary survey								
	(In billions of rupees, end-period)							
Broad money (M3)	33,101	40,179	47,948	55,998	56,362	56,857	56,859	58,322
Currency with public	4,829	5,684	6,655	7,680	7,987	8,252	8,324	8,145
Deposits	28,197	34,404	41,238	48,279	48,338	48,567	48,503	50,132
Non-bank deposits at RBI	75	91	56	38	36	38	31	45
Net domestic assets	23,969	27,228	34,426	43,183	43,681	43,853	43,974	44,983
Domestic credit	29,565	34,785	42,922	51,599	51,579	52,063	52,756	53,849
Net credit to government	8,276	8,995	12,773	16,671	16,993	17,304	17,141	17,542
Of which: RBI	24	-1,132	616	2,116	1,897	2,125	2,274	2,226
Credit to commercial sector	21,289	25,790	30,149	34,928	34,586	34,759	35,615	36,307
Of which: commercial bank lending	19,312	23,619	27,755	32,448	32,346	32,471	33,542	33,800
Nonfood	18,847	23,175	27,293	31,963	31,803	31,965	33,005	33,286
Other items (net)	-5,596	-7,558	-8,496	-8,416	-7,898	-8,210	-8,782	-8,865
Net foreign assets	9,132	12,951	13,522	12,815	12,681	13,004	12,884	13,338
	(Twelve-month percent change)							
Broad money (M3)	21.3	21.4	19.3	16.8	15.0	14.8	14.7	15.5
Net domestic assets	19.6	13.6	26.4	25.4	22.4	20.1	20.7	21.7
Domestic credit	20.2	17.7	23.4	20.2	19.4	20.0	19.7	20.6
Net credit to government	8.0	8.7	42.0	30.5	26.9	26.6	22.6	23.3
Credit to commercial sector	25.7	21.1	16.9	15.9	16.0	16.9	18.4	19.3
Of which: commercial bank lending	28.1	22.3	17.5	16.9	17.9	18.2	20.8	20.5
Nonfood	28.5	23.0	17.8	17.1	18.0	19.0	21.3	20.8
Net foreign assets	25.7	41.8	4.4	-5.2	-4.9	0.0	-2.0	-1.5
	(Contribution to broad money growth)							
Net domestic assets	14.4	9.8	17.9	18.3	16.3	14.8	15.2	15.9
Net credit to government	2.2	2.2	9.4	8.1	7.4	7.3	6.4	6.6
Of which: RBI	-0.2	-3.5	4.4	3.1	2.8	3.1	3.6	3.9
Credit to commercial sector	16.0	13.6	10.8	10.0	9.7	10.2	11.2	11.6
Net foreign assets	6.9	11.5	1.4	-1.5	-1.3	0.0	-0.5	-0.4

Sources: CEIC Data Company Ltd.; IMF International Financial Statistics; and Fund staff calculations.

1/ Data are for April - March fiscal years.

Table 5. India: Central Government Operations, 2006/07–2010/11 1/

	2006/07	2007/08	2008/09	2009/10 Proj.	2010/11 Proj. 2/
Total revenue and grants	4,500	5,919	5,576	5,998	7,407
Net tax revenue	3,532	4,413	4,451	4,683	6,075
Nontax revenue 3/	943	1,478	1,097	1,284	1,311
Grants	25	27	28	31	21
Total expenditure and net lending	5,926	7,188	8,946	10,138	12,277
Current expenditure 4/	5,302	6,101	8,112	9,288	10,924
Capital expenditure and net lending 6/	624	1,088	835	850	1,353
Issuance of subsidy bonds	403	281	826	103	0
Overall balance (authorities' definition) 7/	-1,495	-1,320	-3,431	-3,923	-3,719
Overall balance (IMF definition) 8/	-1,829	-1,550	-4,196	-4,243	-4,870
Financing	1,426	1,269	3,370	4,140	4,870
External (net)	85	93	110	165	225
Domestic (net)	1,341	1,176	3,260	3,975	4,646
Total revenue and grants	10.5	12.0	10.0	9.6	10.0
Net tax revenue	8.2	8.9	8.0	7.5	8.2
Gross tax revenue	11.1	12.0	10.9	10.2	11.1
Of which: corporate tax	3.4	3.9	3.8	4.1	4.2
income tax	1.8	2.1	1.9	2.0	2.0
excise taxes	2.7	2.5	1.9	1.6	2.0
customs duties	2.0	2.1	1.8	1.4	1.8
other taxes	1.2	1.4	1.4	1.1	1.1
Less: States' share	2.8	3.1	2.9	2.6	2.8
Nontax revenue 3/	2.2	3.0	2.0	2.1	1.8
Grants	0.1	0.1	0.1	0.0	0.0
Total expenditure and net lending	13.8	14.5	16.0	16.3	16.6
Current expenditure 4/	12.4	12.3	14.6	14.9	14.8
Of which: interest payments	3.5	3.5	3.4	3.5	3.4
wages and salaries	0.9	0.9	1.3	1.6	1.4
subsidies 5/	1.3	1.4	2.3	2.1	2.0
Capital expenditure and net lending 6/	1.5	2.2	1.5	1.4	1.8
Subsidy-related bonds 9/	0.9	0.6	1.5	0.2	0.0
Overall balance (authorities' definition) 7/	-3.5	-2.7	-6.2	-6.3	-5.0
Overall balance (IMF definition) 8/	-4.3	-3.1	-7.5	-6.8	-6.6
Financing	3.3	2.6	6.0	6.6	6.6
External (net)	0.2	0.2	0.2	0.3	0.3
Domestic (net)	3.1	2.4	5.8	6.4	6.3
Of which: market borrowing	2.6	2.7	4.2	6.4	0.5
small savings (net of states' share)	0.1	-0.1	0.1	0.3	0.3
divestment receipts	0.0	0.1	0.0	0.4	1.5
Memorandum items:					
Primary balance	0.2	0.9	-2.6	-3.1	-3.2
Current balance 7/	-1.9	0.0	-4.5	-4.9	-3.3
Current balance (augmented) 8/	-2.8	-0.6	-6.0	-5.0	-3.3
Central government debt 10/	59.3	57.3	56.7	56.4	53.5
Nominal GDP (in Rs. billion)	42,839.8	49,478.6	55,744.5	62,311.7	73,737.7

Sources: Data provided by the Indian authorities; and Fund staff estimates and projections.

1/ Data for April - March fiscal years.

2/ Budgeted deficit was 5.6 percent of GDP under IMF definition; 5.1 percent under authorities' definition.

3/ In 2007/08, includes a special dividend payment from the RBI amounting to 0.7 percent of GDP. The authorities include this item under "other capital receipts" rather than non-tax revenue. In 2010/11 excludes 3G receipts, classified under divestment receipts.

4/ Includes the surcharge on Union duties transferred to the National Calamity Contingency Fund.

5/ Excludes subsidy-related bond issuance.

6/ In 2007/08, includes roughly 0.7 percent of GDP for the government's purchase of SBI shares from the RBI.

7/ Treats divestment as a revenue item until 2005/06 and after 2009/10 (included). In 2008/09, authorities treat proceeds from selling shares vested with SUTI as revenue in the Budget.

8/ Treats divestment receipts as a below-the-line financing item. Includes subsidy-related bond issuance as expenditure.

9/ Issued by the central government to the Food Corporation of India, fertilizer producers, and the state-owned oil refining/distribution companies as compensation for losses incurred from the subsidized provision of commodities.

10/ External debt measured at historical exchange rates. Inclusive of MSS bonds.

Table 6. India: General Government Operations, 2006/07–2010/11 1/

	2006/07	2007/08	2008/09	2009/10 Proj. 2/	2010/11 Proj. 3/
(In billions of rupees)					
Total revenue and grants	8,734.5	10,952.5	11,159.0	12,038.4	14,446.7
Tax revenue 4/	7,260.6	8,796.9	9,357.0	9,996.2	12,373.4
Nontax revenue 5/ 6/	1,448.6	2,128.4	1,774.0	2,011.5	2,052.7
Grants	25.3	27.2	27.9	30.8	20.6
Total expenditure and net lending 7/ 8/	10,935.0	12,867.7	16,333.7	18,396.6	21,551.6
Capital Expenditure	1,277.1	2,296.1	2,435.7	2,358.1	3,372.6
General government balance	-2,603.7	-2,195.8	-6,000.7	-6,461.3	-7,104.9
Financing	2,200.5	1,915.2	5,174.7	6,358.2	7,104.9
External (net)	84.7	93.2	110.2	165.4	224.6
Domestic (net)	2,115.8	1,822.1	5,064.6	6,192.8	6,880.3
Disinvestment receipts	24.4	127.9	155.7	259.6	1,100.0
(In percent of GDP)					
Total revenue and grants	20.4	22.1	20.0	19.3	19.6
Tax revenue 4/	16.9	17.8	16.8	16.0	16.8
Nontax revenue 5/ 6/	3.4	4.3	3.2	3.2	2.8
Grants					
Total expenditure and net lending 7/ 8/	25.5	26.0	29.3	29.5	29.2
Capital Expenditure	3.0	4.6	4.4	3.8	4.6
General government balance	-6.1	-4.4	-10.8	-10.4	-9.6
Domestic financing (net)	4.9	3.7	9.1	9.9	9.3
Memorandum items:					
Primary balance	0.2	1.4	-4.1	-5.0	-4.6
Nondefense capital expenditure	3.1	3.7	3.5	3.0	3.8
Net interest payments	5.4	5.2	5.1	5.2	5.0
State and union territory governments' balance 9/	-1.9	-1.4	-2.5	-2.9	-3.1
Consolidation items 10/	0.0	0.1	0.1	0.1	0.0
Subsidy-related bond issuance	0.9	0.6	1.5	0.2	0.0
General government debt 11/	77.7	75.0	75.0	76.8	75.0

Sources: Data provided by the Indian authorities; state level data from the *RBI Study on State Finances*; and Fund staff amalgamate and prepare projections.

1/ The consolidated general government comprises the central government (CG) and state governments. Data for April - March fiscal years.

2/ Based on Revised Estimates from 2010/11 Budget.

3/ Staff forecasts based on 2010/11 Budget and subsequent supplementary demands for grants.

4/ Tax revenue equals tax revenue of central government (CG), including NCCF and states' share, plus state tax revenue.

5/ Nontax revenue equals nontax revenue of CG, less interest payments by states on CG loans, plus nontax revenue of states.

6/ In 2007/08, includes a special dividend payment from the RBI amounting to roughly 0.7 percent of GDP. The authorities include this item under "other capital receipts."

7/ Expenditure and net lending equals total expenditure and net lending of CG (authorities' definition excluding subsidy-related bonds), less net loans and grants to states and union territories, plus total expenditure of states (excluding interest payments on CG loans).

8/ In 2007/08, includes 0.7 percent of GDP for the government's purchase of SBI shares from the RBI.

9/ The authorities treat states' divestment proceeds, including land sales, above-the-line as miscellaneous capital receipts. Staff's definition treats divestment receipts as a below-the-line financing item.

10/ Above-the-line items in the CGA, which cancel out in the consolidation (e.g., loans to states).

11/ Includes combined domestic liabilities of CG and states governments, inclusive of MSS bonds, and sovereign external debt at year-end exchange rates.

Table 7. India: Macroeconomic Framework, 2006/07–2014/15 1/

	2006/07	2007/08	2008/09	Prel.	Projections				
				2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Growth (percent change)									
Real GDP (at factor cost)	9.7	9.2	6.7	7.4	8.8	8.1	8.1	8.1	8.1
Non-agricultural sector	11.0	10.2	7.7	8.8	9.5	9.0	8.9	8.9	8.9
Prices (percent change, period average)									
Wholesale prices (1993/94 weights)	5.5	4.6	8.3	3.5	8.5	6.0	5.0	4.0	4.0
Consumer prices	6.7	6.2	9.1	12.7	10.8	6.9	5.0	4.0	4.0
Interest rate on general government domestic debt (percent)	8.0	7.0	7.0	12.4	11.4	9.3	9.0	6.7	6.7
Saving and investment (percent of GDP)									
Gross saving 2/	34.5	36.4	33.9	32.1	34.4	36.1	37.7	39.7	41.7
Gross investment 3/	35.5	37.7	36.2	35.0	37.7	39.6	41.0	42.5	44.0
Fiscal position (percent of GDP)									
Central government balance 4/	-4.3	-3.1	-7.5	-6.8	-6.6	-6.3	-5.6	-4.9	-4.5
General government balance 4/	-6.1	-4.4	-10.8	-10.4	-9.6	-9.0	-8.1	-7.4	-6.9
General government debt 5/	77.7	75.0	75.0	76.8	75.0	74.9	74.4	73.1	71.6
External trade (percent change, BOP basis)									
Merchandise exports (in U.S. dollar terms)	22.6	28.9	13.7	-3.6	25.9	13.4	12.8	12.9	12.2
Merchandise imports (in U.S. dollar terms)	21.4	35.1	19.4	-2.7	27.1	13.9	11.0	11.2	10.9
Balance of payments (in billions of U.S. dollars)									
Current account balance	-9.6	-15.7	-28.7	-38.4	-49.9	-58.2	-59.7	-58.1	-54.3
(in percent of GDP)	-1.0	-1.3	-2.4	-2.9	-3.3	-3.5	-3.2	-2.8	-2.4
Foreign direct investment, net	7.7	15.9	17.5	19.7	23.6	21.7	23.9	30.6	34.0
Portfolio investment, net (equity and debt)	7.1	27.4	-14.0	32.4	31.8	20.0	23.9	28.6	31.8
Overall balance	36.6	92.2	-20.1	13.4	28.6	7.8	16.5	35.3	51.9
External indicators									
Gross reserves (in billions of U.S. dollars, end-period)	199.2	309.7	252.0	279.1	307.7	315.4	332.0	367.3	419.2
(in months of imports) 6/	7.7	10.3	8.4	7.5	7.3	6.3	6.0	6.0	6.2
External debt (in billions of U.S. dollars, end-period)	172.4	224.4	230.8	256.1	291.3	333.6	381.9	438.3	503.3
External debt (percent of GDP, end-period)	18.2	18.3	19.1	19.5	19.2	20.0	20.7	21.4	22.2
Of which : short-term debt 7/	3.7	6.8	7.5	8.0	8.2	8.9	9.4	9.7	10.1
Ratio of gross reserves to short-term debt (end-period) 7/	5.7	3.7	2.8	2.7	2.5	2.1	1.9	1.9	1.8
Debt service (percent of current account receipts)	4.9	5.3	5.2	5.0	5.1	5.9	6.1	6.3	5.7

Sources: Data provided by the Indian authorities; CEIC Data Company Ltd; and Fund staff estimates and projections.

1/ Data are for April-March fiscal years unless otherwise mentioned. Calendar year data in 2008/09 column indicate data for 2008, for instance.

2/ Differs from official data, calculated with gross investment and current account.

3/ Statistical discrepancy adjusted.

4/ Divestment and license auction proceeds are treated as financing; includes subsidy related bond issuance.

5/ Includes combined domestic liabilities of the center and the states, inclusive of MSS bonds, and sovereign external debt at year-end exchange rates.

6/ Imports of goods and services projected over the following twelve months.

7/ Including short-term debt on contracted maturity basis, all NRI deposits, and medium and long-term debt on residual maturity basis, different from authority's definition.

Table 8. India: Indicators of External Vulnerability, 2006/07–2010/11 1/

	2006/07	2007/08	2008/09	2009/10	2010/11 2/
Financial indicators					
General government debt (percent of GDP)	77.7	75.0	75.0	76.8	75.0 (Projection)
Broad money (percent change, 12-month basis)	21.3	21.4	19.3	16.8	17.7 (October 2010)
Private sector credit (percent change, 12-month basis)	25.7	21.1	16.9	15.9	20.2 (October 2010)
91 day T-bill yield (percent; end-period)	8.0	7.2	5.0	4.4	6.9 (November 2010)
91 day T-bill yield (real, percent; end-period) 3/	2.4	2.4	-1.1	-1.1	-0.4 (October 2010)
External indicators					
Exports (percent change, 12-month basis in US\$) 4/ 5/	22.6	28.9	13.7	-3.6	25.9 (Projection)
Export volume (percent change, 12-month basis) 5/	16.5	15.3	14.9	14.5	14.6 (Projection)
Imports (percent change, 12-month basis in US\$) 4/ 5/	21.4	35.1	19.4	-2.7	27.1 (Projection)
Import volume (percent change, 12-month basis) 5/	13.5	13.2	12.8	12.5	12.5 (Projection)
Terms of trade (percent change, 12 month basis) 5/	-2.9	-3.4	-0.8	3.4	-4.0 (Projection)
Current account balance (percent of GDP)	-1.0	-1.3	-2.4	-2.9	-3.3 (Projection)
Capital and financial account balance (percent of GDP)	4.8	8.7	0.6	4.1	5.2 (Projection)
<i>Of which</i> : Net portfolio investment (debt and equity)	0.7	2.2	-1.2	2.5	2.1 (Projection)
Other investment (loans, trade credits, etc.)	3.0	3.3	1.1	1.1	1.5 (Projection)
Net foreign direct investment	0.8	1.3	1.4	1.5	1.6 (Projection)
Foreign currency reserves (billions of US\$)	199.2	309.7	252.0	279.1	294.0 (November 2010)
Official reserves (in months of imports of goods and services)	7.7	10.3	8.4	7.5	7.3 (Projection)
Ratio of foreign currency reserves to broad money (percent)	26.2	30.9	26.6	25.7	21.6 (October 2010)
Total short-term external debt to reserves (percent) 6/	17.6	27.2	35.9	37.6	40.6 (Projection)
Total external debt (percent of GDP)	18.2	18.3	19.1	19.5	19.2 (Projection)
<i>Of which</i> : public sector debt	6.6	5.9	6.2	6.0	5.5 (Projection)
Total external debt to exports of goods and services (percent)	85.0	87.5	79.4	92.8	85.2 (Projection)
External interest payments to exports of goods and services (percent)	2.7	3.2	3.0	2.2	1.7 (Projection)
External amortization payments to exports of goods and services (percent)	16.5	14.5	14.2	15.7	14.9 (Projection)
Exchange rate (per US\$, period average)	45.2	40.3	46.0	46.4	45.9 (November 2010)
REER (y/y change in percent; end-period)	-0.4	2.4	-9.9	13.7	9.3 (November 2010)
Financial market indicators					
Stock market index (end-period)	13,072	15,644	9,709	17,528	19,521 (November 2010)
Foreign currency debt rating					
Moody's Investor Services	Baa3	Baa2	Baa2	Baa3	Baa4 (November 2010)
Standard and Poor's	BBB-	BBB-	BBB-	BBB-	BBB- (November 2010)
Fitch Ratings	BBB-	BBB-	BBB-	BBB-	BBB- (November 2010)

Sources: Data provided by the Indian authorities; and Fund, *Information Notice System* and staff estimates and projections.

1/ Data for April-March fiscal years.

2/ Latest date available or staff estimate, as noted.

3/ Equals nominal yield minus actual WPI inflation.

4/ Data for 2009/10 are on a customs basis, whereas data for previous years are on a BOP basis.

5/ Terms of trade including goods and services. Goods volumes are derived from partner country trade price deflators, and services volumes are derived using U.S. CPI from the WEO database.

6/ Including short-term debt on contracted maturity basis, all NRI deposits, and medium and long-term debt on residual maturity basis, different from authorities' definition.

Table 9. India: Indicators of Financial System Soundness, 2005/06–2009/10

	2005/06	2006/07	2007/08	2008/09	2009/10
Measures of financial strength and performance 1/					
Risk-weighted capital adequacy ratio (CAR)	12.3	12.3	13.0	13.2	13.6
Public sector banks	12.2	12.4	12.5	12.3	12.1
Old Private Sector Banks	11.7	12.1	14.1	14.3	13.8
New Private Sector Banks	12.6	12.0	14.4	15.1	17.3
Foreign banks	13.0	12.4	13.1	15.0	18.1
Number of institutions not meeting 9 percent CAR	3	0	0	0	1
Public sector banks	0	0	0	0	0
Old Private Sector Banks	3	1	0	0	1
New Private Sector Banks	0	0	0	0	0
Foreign banks	0	0	0	0	0
Net nonperforming loans (percent of outstanding net loans) 2/ 3/	1.2	1.0	1.1	1.1	1.1
Public sector banks	1.3	1.1	1.1	0.9	1.1
Old Private Sector Banks	1.7	1.0	0.7	0.9	0.8
New Private Sector Banks	0.8	1.0	1.4	1.4	1.1
Foreign banks	0.8	0.7	0.8	1.8	1.8
Gross nonperforming loans (percent of outstanding loans) 3/	3.3	2.5	2.4	2.3	2.4
Public sector banks	3.6	2.7	2.3	2.0	2.2
Old Private Sector Banks	4.4	3.1	2.3	2.4	2.3
New Private Sector Banks	1.7	1.9	2.9	3.1	2.9
Foreign banks	1.9	1.8	1.9	3.8	4.3
Number of institutions with net NPLs above 10 percent of advances	3	1	0	0	1
Public sector banks	0	0	0	0	0
Old Private Sector Banks	0	0	0	0	0
New Private Sector Banks	0	0	0	0	0
Foreign banks	3	1	0	0	1
Net profit (+)/loss (-) of commercial banks 4/	0.9	0.9	1.0	1.0	0.9
Public sector banks	0.8	0.8	0.9	0.9	0.9
Old Private Sector Banks	0.6	0.7	1.0	1.0	0.9
New Private Sector Banks	1.0	0.9	1.0	1.1	1.2
Foreign banks	1.5	1.7	1.8	1.7	1.1
Balance sheet structure of all scheduled banks					
Loan/deposit ratio	70.1	73.5	74.6	73.9	73.6
Investment in government securities/deposit ratio	31.9	28.0	27.9	28.7	28.8
Lending to sensitive sectors (in percent of loans and advances)					
Real estate	17.2	18.8	18.4	17.5	16.6
Capital market	1.5	1.8	2.5	1.8	1.9
Commodities	0.1	0.0	0.1	0.0	0.0

Source: Annual Report, and Trends and Progress of Banking in India, Reserve Bank of India.

1/ Some loan classification and provisioning standards do not meet international standards.

2/ Gross nonperforming loans less provisions.

3/ Starting in 2001/02, figure includes ICICI, formerly a large development finance institution, which merged with ICICI Bank Ltd. in 2002.

4/ In percent of total assets.

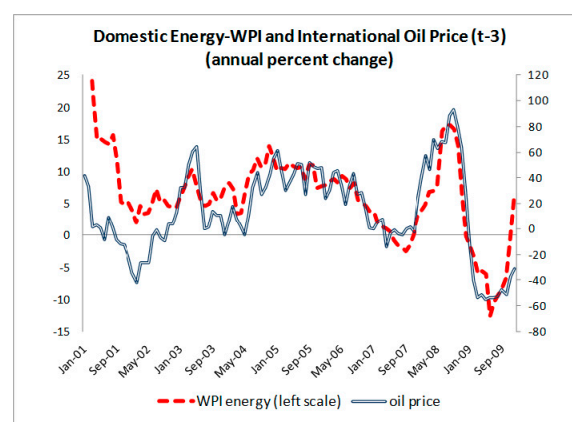
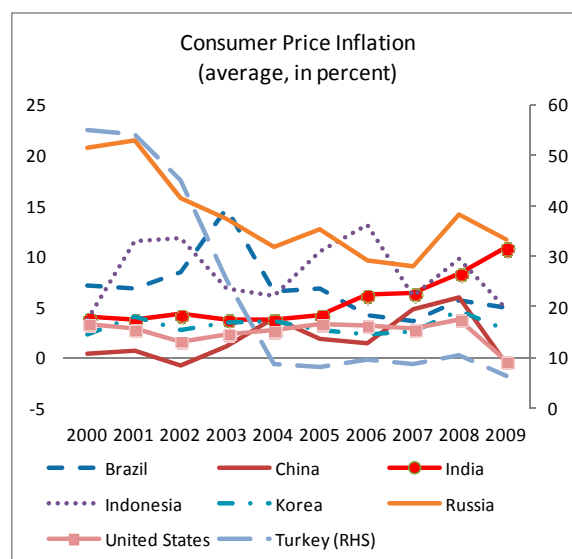
ANNEX 1. INFLATION DYNAMICS IN INDIA¹

Introduction

1. **Since 2007, India's inflation has been trending upwards.** During 2000-09, India's consumer price inflation (CPI industrial workers, IW) averaged 5½ percent, but 9.5 percent in 2008-09. This compares with 2 percent in China, 7 percent in Brazil, and 14 percent in Russia.

2. **The volatility of headline (WPI) inflation has also increased since 2007.** In line with the great moderation trends exhibited elsewhere, inflation volatility was relatively stable in the first half of the 2000s and even declined after 2005. But with the increase in international commodity prices and domestic food prices and their respective volatilities, the variability of inflation (measured by the 12-month rolling standard deviation) increased twofold, from 2 percent before 2005 to an average of 4 percent in 2008-09.

3. **Despite the existence of administered prices in key components of the WPI and CPI baskets as well as other distortions, headline inflation is significantly correlated with international commodity prices.** First, the energy (fuel) component of the WPI comoves strongly with international oil prices. The comovement is stronger when international oil prices are lagged by three months. Second, the domestic energy component of the WPI is also significantly correlated with domestic core inflation, suggesting that movements in domestic underlying inflation have occurred in tandem with shocks to international oil prices. In the case of food, the correlation between international food prices and domestic prices is much smaller and is more volatile. The lack of comovement between international and domestic food prices stems primarily from barriers to trade, price controls, and other public policies.



¹ Prepared by Roberto Guimarães.

New Keynesian Phillips Curve (NKPC) Estimates for India

4. **To shed light on inflation dynamics, this annex estimates a NKPC for India.** The NKPC framework is useful to assess quantitatively the role of inertia, demand and supply factors in the inflation process. According to the NKPC, inflation is given by

$$\Pi_t = \lambda mc_t + \beta E_t \Pi_{t+1}$$

where $\Pi_t = p_t - p_{t-1}$, $\lambda = (1 - \theta)(1 - \beta\theta)/\theta$, with theta being the probability that prices remain unchanged in a given period and beta being the discount factor. In the case of the augmented NKPC, a lagged inflation term is added,

$$\Pi_t = \lambda mc_t + \gamma E_t \Pi_{t+1} + \gamma_b \Pi_{t-1}$$

5. **Empirically, the model requires a proxy for the marginal cost term and proper treatment of inflation expectations.** Gali and Gertler (1999) use the labor share of income as a proxy for marginal costs, but here the output gap is used in the estimations because of data availability. In the case of expected inflation, survey based data could be used or the equation can be estimated by Generalized Method of Moments (GMM) techniques, which instruments expected inflation with past inflation and other exogenous variables (generally lagged regressors). In the case of India, a continuous and reasonably long sample of expected inflation is not available and the NKPC is estimated by GMM. To account for the openness of the economy to international trade, further modifications are made. In an open economy, marginal costs faced by firms are directly affected by imported inputs, and the NKPC is augmented with a measure of import prices or international commodity prices. Three measures are considered, but the estimated coefficients are robust to the measures used in the estimations: (1) an index of oil prices in domestic currency; (2) the index of fuel and non-fuel commodity prices in domestic currency; and (3) the same index as in (2) relative to domestic CPI for industrial workers (IW), which proxies wage costs.

6. **The NKPC is fitted to headline (WPI) inflation and to core (WPI excluding food and energy) inflation.** The inflation measure used is the quarter-on-quarter annualized change of the price index. The data are seasonally adjusted prior to estimations and span 1996-Q2 to 2010-Q1. Alternative measures of the output gap are used in the estimations (factor costs GDP, factor costs GDP excluding agriculture, and market price GDP). The baseline estimates presented below are for core inflation and the output gap is calculated from non-agriculture GDP at factor costs.

7. **The analysis of inflation dynamics using the NKPC suggests that in the case of India both forward-looking and backward-looking inflation are important determinants of inflation (Table 1):**

- Inflation inertia is significant, as the coefficient of lagged inflation is generally large (positive) and statistically significant. The estimated effect of lagged inflation on current inflation typically exceeds 0.70 and is about two to three times as large as that of expected inflation.
- Expected inflation also has an effect on current inflation, but it is smaller than past inflation: a one percentage point increase in expected inflation leads to 0.2 to 0.4 percentage point increase in inflation depending on the specification.
- The effect of the output gap on inflation is generally economically significant and ranges between 0.4-0.8 across specifications. Its statistical significance, however, depends on the measure of inflation used and to a smaller extent, also on the output gap measure used.
- International commodity prices are an important cost push factor and exert an effect on inflation beyond that incorporated in expectations or past inflation.
- Domestic food prices also act as a cost push factor, with a one percentage point increase in food inflation translating into 0.15 percentage point increase in core inflation. Although not statistically significant in all specifications, the inclusion of domestic food prices improves the fit of the model. The coefficient on food inflation remains broadly unchanged when a backward-looking version of the PC is estimated. In addition, the long term response of core inflation to a one percentage point increase in food inflation is in the order of 0.4 percentage points. This is consistent with the view outlined in Gokarn (2010) that food prices “have been a major driver of domestic inflation over the past few years”.

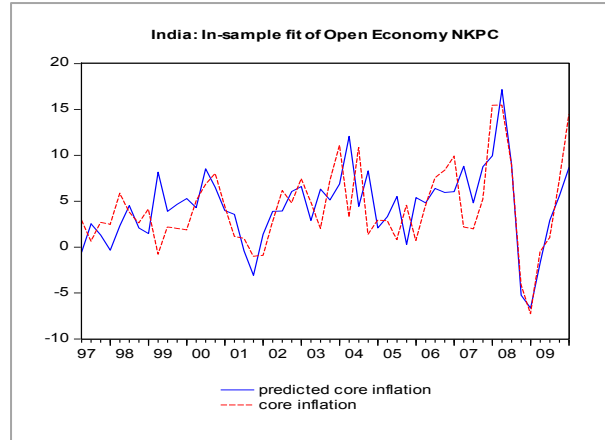
Table 1. NKPC – Open-Economy GMM estimates with Core Inflation 1/

Variable	Coefficients	t-statistic
<i>Open-economy NKPC with lagged core inflation</i>		
Expected inflation (γ_f)	0.24**	2.11
Output gap (λ)	0.89**	2.58
Relative commodity price index	0.03**	3.09
Domestic food inflation	0.14	1.41
Lagged inflation (γ_b)	0.76**	6.57
J-statistic = 0.18 (p-value=0.46), adjusted R-square = 0.42		

Source: Fund staff estimates.

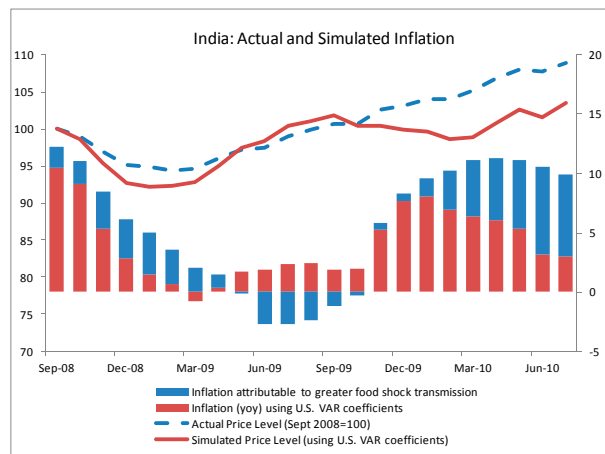
Notes: 1/ The sample period is 1996-Q2–2010-Q1. An * (**) denotes significance at 10 (5) percent. Estimated constant is not shown here. Coefficients on lagged and forward inflation are constrained to add up to one.

8. **The in-sample fit of the open-economy NKPC is good.** The empirical model captures the turning points in core inflation reasonably well. Yet, the model under-predicts inflation in the last quarter of 2009 and first quarter of 2010. The fit is also marginally worse when the commodity price measure is not included.



9. **The important role of food prices in driving inflation in India becomes clearer once inflation is disaggregated into its food and nonfood components.**

The volatility of food price shocks is higher and large upward shocks are more common and persistent. In addition, the transmission mechanism between food and nonfood prices is stronger than in rich countries (APD REO, Fall 2010, Box 2.1). The large food price shocks observed in recent years in India could thus be expected to have a substantial effect on headline inflation. For example, between September 2008 and July 2010, food prices rose rapidly due to a poor monsoon and rising rural incomes. If these price shocks had been transmitted to nonfood prices in the way food price shocks are transmitted in the United States, overall inflation would have been only 3 percent during this period.



10. **The importance of food prices for the determination of inflation also has normative implications.** This is challenging for inflation modelers since, as shown by Gokarn (2010), the interplay between the dynamics of different types of food items and overall food inflation also reflects rapidly changing spending patterns on food. Nonetheless, Prasad and Anand (2010) show that when food is a major part of the consumption basket and in the presence of financial frictions, such as when a large share of households are credit constrained, a welfare-maximizing central bank should target headline CPI inflation, while assigning some weight to the output gap. This is relevant in India because the share of food expenditure in total spending is high and the ability to smooth consumption may be limited.

Conclusions

11. **The main findings can be summarized as follows:**

- India's inflation has increased recently, with both demand and supply factors playing important roles.
- Unlike food prices, which are driven by domestic factors, the comovement between the energy component of headline inflation and lagged international prices is strong. Also, domestic energy inflation is highly correlated with headline inflation.
- Phillips curve estimates suggest that the backward-looking component of inflation expectations is large, but that the output gap and (forward looking) expected inflation are also important to understanding inflation dynamics.
- International commodity prices help deliver a good fit, but their effect on core and headline inflation operates with long lags.
- The inclusion of domestic food prices as a second cost-push factor improves the in-sample fit of the model.
- In poorer countries, food prices are found to be more volatile and to spillover onto nonfood prices more than in richer countries.

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ANNEX 2. ASSESSING THE RBI'S MONETARY POLICY STANCE¹

1. **The RBI has been withdrawing monetary accommodation since late 2009.**

Initially, the RBI raised the Statutory Liquidity Requirement to its pre-crisis level (25 percent) and eliminated or reduced special liquidity facilities introduced during the crisis. Since the beginning of 2010, the RBI has raised its repo (reverse repo) policy rate by 150 (200) basis points and the cash reserve ratio (CRR) by 100 basis points. The RBI has communicated to markets that the normalization of monetary conditions is needed given that the recovery is consolidating and inflation pressures have become more broad-based. The RBI has recently provided forward guidance on its future actions, including by signaling a pausing of interest rate hikes in the immediate future.

2. **Short-term money market rates have increased by more than the policy rates.**

In addition to the changes in the policy rates, the call money rate (which until April was hovering near the bottom of the policy corridor) also rose to the top of corridor as interbank liquidity became scarcer.² The RBI has also taken measures to alleviate the liquidity shortage, including by allowing banks to use up to 2 percent of their portfolio of government securities to borrow from special liquidity adjustment facility windows (effectively lowering the SLR by 2 percentage points).

3. **Despite the interest rate hikes, several indicators suggest that monetary conditions remain accommodative.**

- *Short-term interest rates remain low by historical standards.* The RBI has only partially reversed the interest cuts it put in place during the crisis (it had cut the reverse repo rate by 275 basis points (bps) and the repo rate by 425 bps), despite a return to close to pre-crisis growth and the rapid rise in inflation.³
- *Short-term rates remain negative in real terms.* With the latest headline inflation at 8.6 percent y/y, the *real* call money rate is still at -2.3 percent, between 350-500 basis

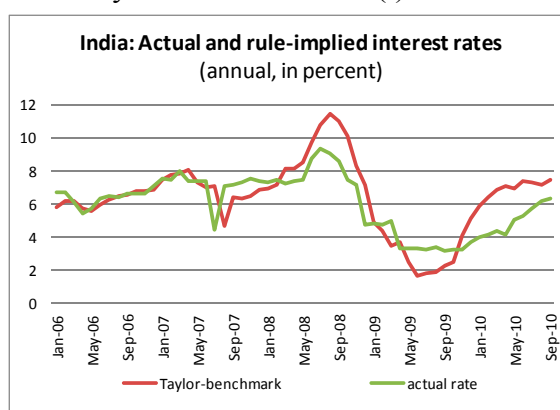
¹ Prepared by Roberto Guimarães.

² Some of the variation in liquidity was widely anticipated and resulted from the payment of 3G license and broadband wireless spectrum auctions as well as tax payments. However, tight liquidity has persisted.

³ Short-term interest rates have been generally higher (at 8-9 percent) when the economy is in a cyclically strong position (e.g., when output gap is estimated to be closed or positive). For instance, in June 2008, the call money rate was around 8.5 percent while growth was slightly below the current pace (7.8 percent in 2008Q2 versus 8.8 percent in 2010Q2) and CPI inflation was near 8 percent y/y. The analysis in Box III.2 in RBI (2010) suggests that “a neutral rate approximated in terms of the call rate over a medium term horizon provides a broad reference point for assessing the stance of monetary policy.”

points below its historical average (about 1½ percent). Bank deposit rates are also well into negative territory. At their current levels short-term rates would remain negative for the rest of the fiscal year, as inflation is only projected to decline gradually to around 6.5 percent y/y by March 2011 and 6 percent (average) in 2011/12. Even using the RBI's inflation projection of 5.5 percent for March 2011 would still leave the real repo rate at 0.75 percent, whereas measures of the natural real rate are generally above that level (especially for a rapidly growing economy).

- *Interest rates are also low according to standard Taylor-rule benchmarks.* Taylor rule calculations suggest that the short-term interest rate is below its neutral levels or historical benchmarks accounting for the output gap and inflation. Taylor rules are estimated with data covering 1996-2010. Two Taylor rules are used:⁴ (i) a benchmark “calibrated” Taylor rule in which the responses to the output gap and inflation gap (deviation of inflation from medium-term sample average) are similar to that of the seminal Taylor rule, but accounts for significant inertia in policy rates;⁵ and (ii) an *estimated* rule with India data. The calibrated rule shows that the call money rate is some 100 basis points below the rule-implied level, while the estimated one puts this discrepancy at 75 basis points.

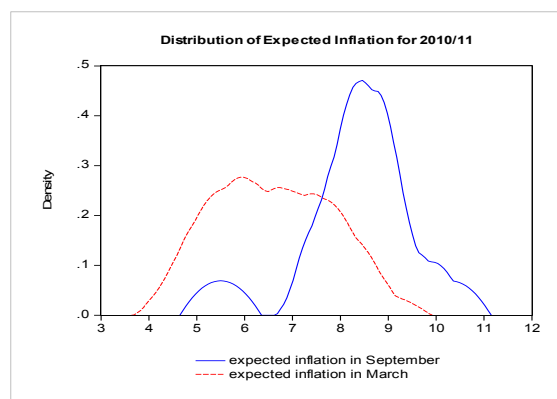


4. **Despite some moderation in inflation in recent months, inflation expectations have drifted upwards.**

⁴ The 3-month T-bill rate is used in the estimation because it is empirically indistinguishable from the call money rate, but does not have the spikes and higher volatility of the latter. Using the call money rate in the estimations yields the same coefficients of the Taylor rule, but reduces the fit of the equation and increases the standard error of the coefficients.

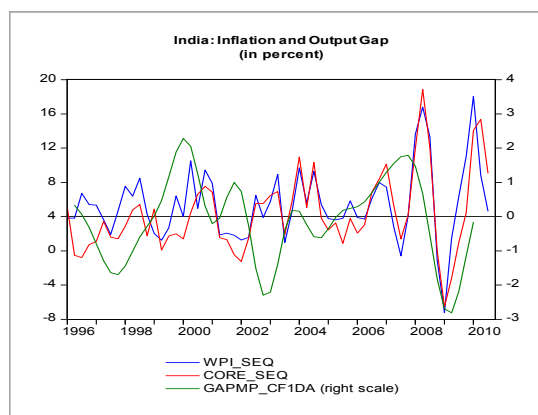
⁵ The calibrated rule has the following responses to the inflation gap and output gap: 1.5 and 0.5. In the estimated rule, the responses are 0.7 and 1.6. The inertial component of the estimated rule is also higher compared to the calibrated one: 0.9 versus 0.75. The optimal rule in Anand et al. (2010) also displays a high degree of inertia, but it also includes the exchange rate. Some of the rules estimated by Patra and Kanpur (2010) show a stronger response to inflation over longer horizons.

- *One-year ahead expected inflation* from professional forecasters have increased by a full percentage point between March 2009 and March 2010. Moreover, since early 2010, the distribution of expected inflation from Consensus Forecasts has shifted to the right and became more fat-tailed, pointing to increased uncertainty.
- *Expectations of longer-term inflation have also increased.* Since early 2010, ten-year ahead expected inflation measures (CPI and WPI) from the RBI survey of professional forecasters have increased by about 1 percentage point to 5.5-6.5 percent (annual inflation), well above the RBI's medium-term objective of 4-4.5 percent. Surveys also show that households' perceptions of inflation have also risen.



5. **There is little slack in the economy and the output gap is significantly correlated with inflation, suggesting a return of pricing power.**

- *The measures of the output gap* show that the rapid rebound from crisis has virtually eliminated the gap between actual and potential GDP. While in 2007-08 GDP was advancing faster than its potential growth rate, in early 2009 there was substantial slack in the economy. With the swift rebound in growth, the output gap is estimated to have closed. More importantly, while it is difficult to measure the size of the output gap with precision, all measures point in the same direction. This is also consistent with a measure of the output gap that excludes agriculture.
- *India's inflation is correlated with the output gap.* The correlations range from 0.15 percent in the case of WPI inflation to 0.22 percent in the case of core inflation (WPI excluding food and energy), both measured in sequential terms.⁶ (The sample spans 1996-Q2 until 2010-Q1 and is constrained only by data availability). Phillips curve estimates also indicate that a one percentage point increase in the output gap could increase inflation by 0.8 percentage points (see Annex 1).



⁶ The correlation between GDP at factor costs excluding agriculture and core inflation is the highest at 0.26.

6. **The exchange rate appreciation has contributed to a hardening of monetary settings, but the rupee appreciation has been relatively modest.** In nominal effective terms the rupee has appreciated by only 4 percent since end-2009.

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Reserve Bank of India, 2010, Annual Report 2009-10, Box III.2.

ANNEX 3. INDIA: FISCAL DEVELOPMENTS AND PROSPECTS FOR CONSOLIDATION¹

Background

1. ***After two years of very high deficits, the 2010/11 budget was intended to begin the process of fiscal consolidation.*** General government deficits in 2008/09 and 2009/10 exceeded ten percent of GDP, while central government deficits exceeded 6¾ percent of GDP. The 2010/11 budget of the Center began the process of consolidation recommended by the 13th Finance Commission (FC) and reiterated by the November 2010 Government Debt Report. State government budgets were also expected to improve as the recovery came underway.

2. ***Since then, revenues have rebounded strongly, but rising expenditures have necessitated supplementary budgets .*** The August and November supplementary demands for grants amounted to 1.3 percent of GDP².
 - **Revenue** growth has been quite strong in the recovery from the crisis. Despite rate reductions, personal income tax collections are on track to exceed their 2007/08 peak as a share of GDP, and the revival of corporate profits and foreign trade has buoyed corporate income taxes and customs revenue. A partial rollback of the excise tax cut taken during the crisis has also supported indirect tax revenues.
 - **Current expenditure.** Non-interest current expenditure was slated to grow by 3.4 y/y percent in 2010/11, but in the first half of the year rose by 14.7 percent.
 - **Subsidies**, which reached 2.3 percent of GDP in 2008/09, were budgeted to fall to 1.6 percent in 2010/11, with only a nominal amount for fuel subsidies. This has not yet materialized, however, and even with the hikes to market prices for fuels and liberalization of gasoline prices undertaken in June 2010, subsidies in 2010/11 are still expected to be around 2 percent of GDP.
 - **Capital spending.** Nonmilitary capital spending was budgeted to rise by 18 percent: its growth so far exceeds this rate.
 - **One-off proceeds** from the government's auctions of 3G and broadband licenses as well as divestment have been positive. The 3G auction raised twice its expected target of Rs 350 billion. The government budgeted proceeds from divestment of shares in public enterprises of Rs 400 billion for 2010/11, and this target is likely to be easily met³.

¹ Prepared by James P. Walsh

² It should be noted that of these supplemental requests, Rs 85 billion (0.1 percent of GDP) was earmarked for India's IMF quota increase.

³ The Indian government classifies the proceeds of the wireless and broadband auction licenses, as well as proceeds from share sales, as revenue while IMF guidelines call for its classification as financing.

- **State budgets** are expected to contribute to fiscal consolidation this year as receipts revive and spending, which rose by less than central government spending during the crisis, remains under control. The 2009/10 deficit estimated at 3.7 percent of GDP should improve this year to around 3.3 percent of GDP.
- **Current IMF staff forecasts** place the deficit above the budgeted target; however, this is not the case under the authorities' methodology, which includes the proceeds of various asset sales as revenue.

Tax Reforms

3. ***The government hopes to introduce a nationwide Goods and Services Tax (GST) in April 2012.*** The tax, which will be implemented as a value-added tax, is intended to replace India's web of state- and national level excise, sales and value added taxes with a unified consumption-tax framework, and to move from origin- to destination-based taxation. Some important features of the tax as currently proposed are:

- The central government will tax goods at 10 percent, services at 8 percent, and essential items at 6 percent, with the recommendation that the states add identical rates⁴.
- Within three years these rates are expected to converge to 8 percent.
- The entire consumption base will be taxed by bringing imports into the base while excluding exports. Businesses with annual sales below Rs 1 million will be exempt.
- While many indirect taxes levied by the states and the central government will be subsumed into the GST, taxation of fuels and alcohol will remain outside the GST for the time being.

4. ***The reform is designed to be revenue neutral, but its simplification relative to the current system should increase revenues in the long run.*** The current proposal is similar to the "Model GST" proposed by the FC with a few exceptions, such as the lack of a uniform rate (though this is temporary), and a slightly longer list of exemptions. Revenues will be shared between the central government and the states, but the FC recommended that states which collected more revenue under the current tax structure (both from state level excise taxes and their share of revenues from the central government sales tax) be compensated for losses until 2014/15. The replacement of India's distortionary current system with the more streamlined GST is expected to increase compliance, and could have a positive impact on growth.

5. ***Approval of the GST will be a prolonged process.*** Changing the allocation of taxation responsibilities from the states to the central government requires a constitutional

⁴ That is, the total rate on goods would be 20 percent. Rates would be fixed nationwide, with the revenue pool for the states allocated according to Finance Commission Recommendations.

amendment. This would have to pass with a qualified supermajority in Parliament and then be approved by a majority of the states. As the Parliamentary opposition and many state legislatures have raised objections to various aspects of the legislation, the prospects for passage are not clear. After approval of the amendment, a GST bill based on this proposal would be tabled in Parliament and would require only a majority vote.

6. ***Parliament is expected to pass a new Direct Tax Code (DTC) soon.*** The DTC is intended to modernize the framework for income and corporate taxes in India, which was last updated in 1961. By limiting deductions, the draft tax code aims at increasing the tax base, allowing for a reduction in tax rates while collecting a similar level of revenues. It is expected to come into effect on April 1, 2012. Some important components of the legislation are:

Corporate Income Tax

- Despite initial proposals to reduce the rate to 25 percent, the corporate income tax rate has been maintained at 30 percent. However, the elimination of various cesses and surcharges will reduce the effective rate.
- Residence of corporations will be determined by their place of “effective management.”
- Corporate book profits will be taxed, rather than corporate assets or realized profits, as originally proposed.

Personal Income Tax

- Capital gains will now be taxed as income, and foreign investors without labor income will be taxed at the equivalent marginal rate on earnings, though a deduction from the base will apply on assets held for more than one year. Capital gains taxes will not apply to equity shares held for more than one year.
- Retirement and certain other long-term savings will be taxed neither when earned nor when withdrawn; reinvested capital gains will also not be taxed.
- The narrower tax brackets included in the 2010/11 budget have been slightly modified, furthering lowering marginal tax rates on some income ranges.

Inclusive Growth and Fiscal Costs

7. ***Given its relatively low social indicators compared to other countries, the Indian government supports a broad range of social programs.*** Compared to other major emerging markets (EMs), as well as other countries in the region, and despite rapid growth in recent years, India’s social indicators remain comparatively weak (Table 1). Hence, social spending is an important priority. However, spending on subsidies, primarily on fuels and fertilizers, but also on food, accounts for a share of general government spending comparable to that of health and rural development combined.

Table 1. India and the Millennium Development Goals

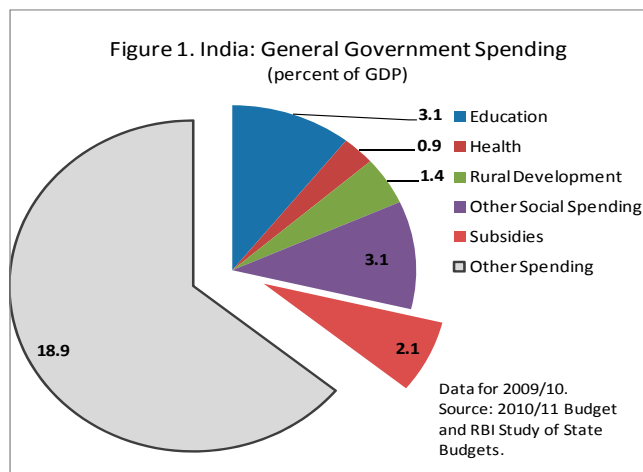
	Percentage of population earning below \$1 (PPP) per day 1/	Ratio of Employment to Population	Percentage of Population Undernourished	Net Enrollment in Primary Education (Girls)	Infant Mortality per 1000 Live Births
India	41.6	55.6	22.0	93.6	52.0
Bangladesh	49.6	67.9	26.0	89.3	43.0
China	15.9	71.0	10.0	n.a.	18.0
Indonesia	29.4	61.8	16.0	n.a.	31.0
Malaysia	2.0	60.5	5.0	96.0	6.0
Myanmar	n.a.	74.4	17.0	n.a.	71.0
Nepal	55.1	61.5	16.0	n.a.	41.0
Philippines	22.6	60.1	15.0	93.2	26.0
Sri Lanka	n.a.	54.7	21.0	99.8	13.0
Thailand	2.0	71.5	17.0	89.4	13.0
Vietnam	21.5	69.4	13.0	n.a.	12.0
Average: selected Asia	24.8	65.3	15.6	93.5	27.4
Brazil	5.2	63.9	6.0	94.3	18.0
Mexico	4.0	57.1	5.0	99.6	15.0
Russian Federation	2.0	56.7	5.0	n.a.	12.0
South Africa	n.a.	41.1	5.0	93.7	48.0
Turkey	2.6	42.3	5.0	93.6	20.0
Average: selected EMs	3.2	51.8	5.2	95.1	20.0

1/ Adjusted for inflation and exchange rate shifts, this is now comparable to a threshold in India of US\$1.25 a day.

Source: UNStats. Data provided are most recent available since 2005.

8. ***The government has announced numerous expansions to social programs.***

In recent years, the government has sought to broaden the reach of programs aimed at improving rural livelihoods and the education system, and is likely to expand its subsidized food programs. Widening scope of social safety nets is an important step in improving human welfare. But reconciling the expansion of these programs with the government's commitment to reduce overall spending will be a challenge.



9. ***The flagship National Rural Employment Guarantee Act (NREG) is large, though the cost at present is manageable.*** NREGA, passed in February 2006 and fully implemented across rural India in 2008, provides 100 days of work to any rural household that requests it. In 2010/11, the program's budget is Rs 401 billion (0.5 percent of GDP). Wages under NREG are low, averaging around Rs 90 per day in 2009/10, but have risen over time, including a recommendation earlier this year that wages be raised to Rs 100 a day or linked to states' minimum wages. The program is extensive – in 2009/10, 53 million households requested employment under the scheme –and the government is increasing awareness of the

program. However, the government sees this as a safety net rather than a program that will displace regular employment.

10. ***The uneven implementation of NREG across India points to a large scope for its expansion, which could be costly.*** In the five states in which NREG has enrolled the largest percentage of poor households, the program has enrolled around 85 percent of working age poor persons⁵. In the rest of the country, only 21 percent of the working age poor have been enrolled. The cost of expanding NREGA in those states with relatively low penetration to the same level the program has attained in the most implemented states would be around 0.8 percent of GDP. Implementation on this broader scale would thus more than double the current cost of the program. Tying wage rates to minimum wages could also raise costs.

11. ***The 2009 Right to Education Act (RTE) could prove another major fiscal undertaking.*** The law sets a goal of ensuring universal high quality education for children up to age 14. In early years much expenditure under the program is likely to come under the auspices of the *Sarva Shiksha Abhiyan* (SSA) program, which has similar but narrower goals. Implementation will be shared between the central government and the states. There is already a broad range of support for education. The five states with the highest 2007 literacy rates, averaging 95 percent, budgeted Rs 6100 per child on education in 2009/10, while the rest of the states (with a combined literacy rate of 68 percent) budgeted on average Rs 4200 per child⁶. Improving literacy, rather than equalizing state spending on education, is the goal of RTE. But as a guideline, raising per child expenditures for the 23 states with the lowest literacy rates to the same level as those with the highest literacy rates would entail additional costs of 0.9 percent of GDP.

12. ***Finally, the Food Security Act (FSA) is on the horizon.*** The FSA has no timetable yet for approval and is only now being fleshed out. The main point of the program would be to provide 35 kg of rice or wheat each month to eligible households at a subsidized cost of Rs 3 a kilo⁷. It is not clear how broad the expansion of current programs will be: a recent increase in the poverty line raised the estimate of poor households from 64 to 85 million,

⁵ Staff estimates for this and further calculations below based on data from NREGA, the Census of India, the Planning Commission, and the Reserve Bank of India's Report on State Finances 2010/11. Given their different treatment under India's anti-poverty programs, the Northeastern states were excluded from the NREGA analysis; the five states with the highest level of participation are Andhra Pradesh, Himachal Pradesh, Karnataka, Rajasthan and Tamil Nadu.

⁶ The states with the highest literacy rates are Goa, Himachal Pradesh, Kerala, Mizoram and Tripura.

⁷ Under current policies, households below the poverty line pay slightly higher prices (Rs 4.2 per kilo for wheat and Rs 5.7 for rice) for the same quantities, though 25 million households pay even lower prices under a program called *Antyodaya Anna Yojana* (AAY) and additional support programs exist for children, the elderly, and the working rural poor.

while even broader criteria have also been discussed, including some that would make subsidized food grains universally available in poorer parts of the country.

13. ***Such a large expansion of the social safety net should be undertaken with a view toward increased efficiency of implementation.*** Leakages from social programs are difficult to quantify, but estimates of losses are often quite large. A 2008 report by the Comptroller General on NREG noted many discrepancies and a lack of transparency about how the program was implemented in many parts of the country⁸. A similar report in 2006 on the national food distribution system, which under some proposals would become the implementing mechanism for the Food Security Act, found that many persons eligible for the program were denied ration cards, and that many who did were unable to use the service on a regular basis⁹. Another study finds not only that two-thirds of publicly distributed wheat does not reach eligible persons, but that this percentage varies dramatically by state, implying that more efficient distribution can cut losses¹⁰. On the other hand, the National Population Register and introduction of the Unique Identification number (UID) is expected to help reduce leakages and increase social safety net efficiency.

Outlook for Medium-Term Consolidation

14. ***The report of the 13th Finance Commission focused on fiscal consolidation but laid out other important fiscal reforms.*** FC reports are published every five years. This year's report contained a number of significant proposals to enhance long-term fiscal sustainability:

- For the first time, a public sector debt target was established, at 68 percent of GDP (45 percent for the central government, both slightly above what the IMF had recommended), with a path of fiscal consolidation for the central and general governments (Table 2).
- The FC also recommended:
 - increasing central government borrowing and revenue sharing during downturns rather than raising states' borrowing limits;
 - establishing an independent review mechanism to evaluate fiscal reforms;
 - the Medium Term Fiscal Plan required under the Fiscal Responsibility and Budget Management Act (FRBMA) be "made a statement of a commitment rather than a statement of intent";
 - amending the FRBMA to spell out clearly under what circumstances its targets could be relaxed;

⁸ Comptroller and Auditor General of India, *Union Audit Reports: Performance Audit – Report No. 11 of 2008*.

⁹ Comptroller and Auditor General of India, *Union Audit Reports: Performance Audit - Report No. 16 of 2006*.

¹⁰ R. Khera (2010) "India's Public Distribution System: Utilization and Impact", *Journal of Development Studies*, forthcoming.

Table 2. India: 13th Finance Commission Path for Fiscal Consolidation

	2009/10	2010/11	2011/12	2012/13	2013/15	2014/15
	(percent of GDP)					
Fiscal Deficit (General Government) 1/	9.6	8.3	7.3	6.7	5.4	5.4
Central Government	6.8	5.7	4.8	4.2	3.0	3.0
States	2.8	2.6	2.5	2.5	2.4	2.4
Outstanding Debt (General Government)	78.8	78.3	76.6	74.3	70.8	67.8
Central Government	54.2	53.9	52.5	50.5	47.5	44.8
States 2/	24.6	24.4	24.1	23.8	23.3	23.0

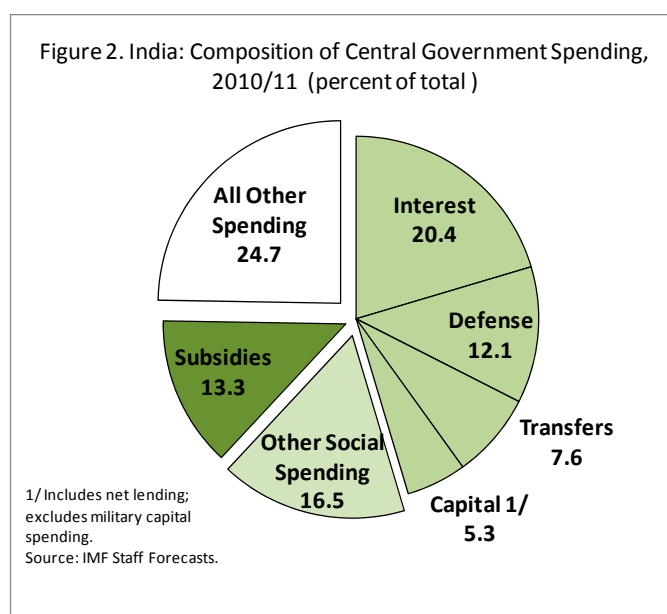
1/ Authorities' definition
2/ Excluding debt to central government

15. ***The November 2010 Government Debt Report (GDR) goes beyond these recommendations.*** Nominal GDP

growth above original forecasts has reduced India's debt-to-GDP ratios and brought the FC debt target closer. Noting this, the GDR lays out the authorities' commitment to continue to abide by the challenging deficit path laid out by the FC, which thanks to higher GDP would bring India's general government debt down to 65 percent of GDP by 2014/15, below the FC target.

Through its detailed discussion of the structure, terms and holding patterns of Indian state and central government debt, the GDR also

represents an important step forward for transparency. By enumerating specific areas for savings and presenting a five-year path for spending and revenues based on bottom-up estimates, it also furthers the authorities' goal of moving Indian fiscal policy into a medium-term timeframe.



16. ***Attaining these goals will be challenging.*** With tax reforms intended to be revenue neutral, capital spending slated to increase given India's infrastructure demands, as well as the country's pressing social needs, fiscal consolidation must rest on tight control of nonproductive expenditure. Fund research also suggests that current expenditure has a lower multiplier than tax or development expenditure.¹¹ Spending on interest, defense and transfers

¹¹ Guimarães, Roberto, 2010, "What are the effects of fiscal policy shocks in India?", IMF Working Paper, forthcoming

to states, areas where cuts are likely off the table, accounts for 40 percent of total 2010/11 spending (Figure 2). Capital expenditure accounts for an additional 5 percent. Non-subsidy social spending, which if streamlined would serve more people at current cost levels, accounts for an additional 16.5 percent. Since 2004, spending in the remaining areas, including subsidies, has risen on average by 17 percent per year. Based on Fund staff forecasts for revenue and spending in other categories, growth in these areas would have to fall to 13 percent between 2010/11 and 2014/15. As high as that growth rate is, it is already likely out of reach for 2010/11 despite various one-off items that were falling off (e.g., 6th Pay Commission arrears and the farmers' debt waiver).

17. ***The recent subsidy reform is a step in the right direction.*** The 2010/11 budget rationalized subsidies for fertilizers by moving the basis from reimbursement from the product itself to its nutrient content. In June, wholesale prices for kerosene and LNG were raised by 33 and 11 percent, respectively, while the price of diesel was raised by 5 percent, though the government reserved the right to reverse these measures if international oil prices climb to excessive levels. Gasoline prices were fully liberalized with immediate effect, and the government announced its intention to follow up with a freeing of diesel prices. All these measures have long been supported by the Fund. Raising these prices reduced the likely subsidy bill for the remainder of 2010/11, while the full liberalization of gasoline, and eventually diesel prices, will reduce the variability of subsidies in the future, reducing ongoing fiscal risks. With fertilizer and fuel subsidies still likely to cost 1.2 percent of GDP in 2010/11, a substantial reduction in these outflows would be an important contribution to fiscal consolidation.

ANNEX 4. CURRENT ACCOUNT AND EXTERNAL STABILITY¹

1. **India's current account deficit has widened since mid-2009, as the domestic recovery gathered momentum.** The current account deficit (CAD), which averaged 1.1 percent of GDP in the three years prior to the crisis, increased to 3.7 percent of GDP in 2010Q2. The CAD is expected to remain at 3-3.5 percent of GDP over the next couple of years as trading partners' demand is projected to grow by less than India's domestic demand. Moreover, India's investment is anticipated to continue to increase, partly due to a big infrastructure push.

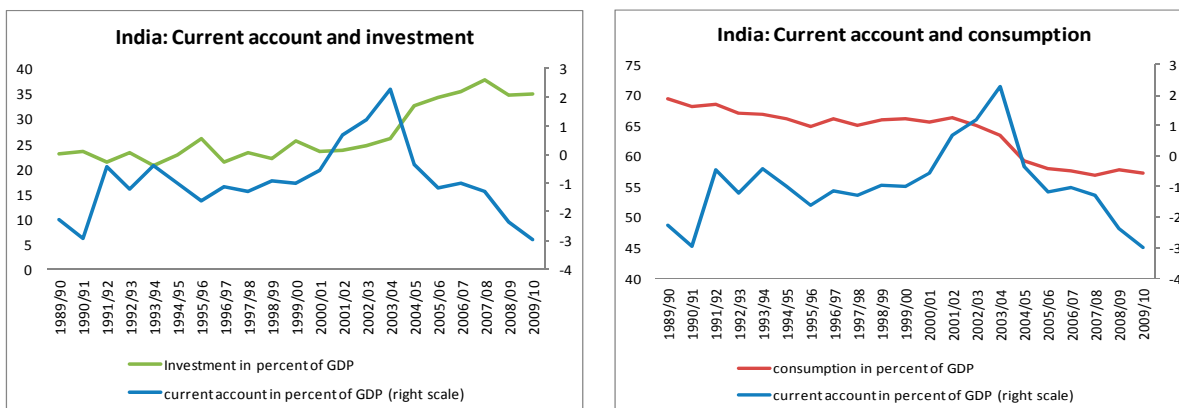
2. **India's CAD has been primarily the result of the trade deficit.** The trade deficit, which has hovered around 9 percent of GDP, has been partly offset by the surplus in the services balance (about 3 percent of GDP) and net factor income including transfers (about 3 percent of GDP). Despite some recent moderation, export growth has remained resilient and has averaged 28 percent so far in 2010. The robust export performance reflects rapid growth in India's trading partners, and a diversified export base, both in terms of destination markets and products.² Import growth, meanwhile, has also been rapid, particularly of capital goods. In terms of secular trends, India exports have risen as a share of world exports (goods and services), reflecting gains in productivity and increased integration with the global economy.



3. **The rise in the current account deficit has been accompanied by a domestic investment boom.** India's domestic recovery has been led by investment. Trends since 2005 also show that the rise in the investment to GDP ratio has been accompanied by a widening CAD. Gross fixed investment rose from 31 percent of GDP in 2006/07 (when the CAD was 1 percent of GDP) to 32½ percent in 2009/10, as the CAD rose to nearly 3 percent of GDP. Further, domestic consumption growth has remained subdued, and the consumption share of GDP has been declining steadily since the early 1990s to 57 percent of GDP in 2009/10, almost 9 percentage points below the level recorded in 2004.

¹ Prepared by Roberto Guimarães.

² India's main (goods) export destinations are the U.A.E. (13 percent) and the U.S. (12 percent). China and Hong Kong account for almost 10 percent of exports. In terms of products, textiles and gems and jewelry are ¼ of exports and other manufacturing goods including oil products account for 40 percent.



4. **The external debt sustainability analysis (ext-DSA) provides a benchmark to gauge the sustainability of the CAD.** Given India's low external debt (about 20 percent of GDP), the non-interest CAD that stabilizes external debt is in the order of 4 percent of GDP, compared to a non-interest CAD of 2.2 percent in 2009/10. While the *baseline* ext-DSA provides a useful benchmark, it does not take fully into account the potential perverse dynamics that often arise when countries run large and protracted CADs. For instance, interest rates on the external debt generally spike as domestic growth slows unexpectedly due to an adverse external shock. In India's case, given the high average growth and low external debt, even a combination of adverse shocks would still leave external debt under 30 percent of GDP.

5. **India's CAD is at present broadly in line with its norm.** Since it is the equilibrium level of the CA consistent with medium-term fundamentals (such as relative growth, demographic trends, and fiscal position), the CA norm posits the level of current account that can be financed by capital flows with no reserve accumulation and an exchange rate in equilibrium. The fall 2010 CGER estimates India's CAD norm at 3.4 percent of GDP.³ While the projected CAD is expected to be close to the norm in 2010/11 and 2011/12 at around 3.3-3.5 percent of GDP,⁴ over the medium term the CAD is expected to decline to 2-2.5 percent of GDP as import growth moderates in line with overall economic growth and productivity gains in the tradable sector further spur export growth.

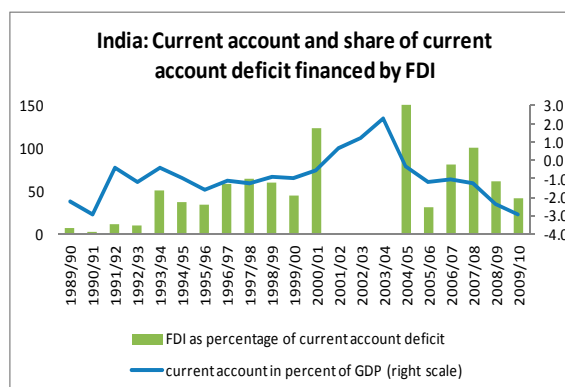
6. **India's CAD is particularly sensitive to oil prices and growth differentials.** The income elasticity of the trade balance is higher in the case of foreign income compared with domestic income, based on an error-correction model (ECM) estimated for 1980-2009. The sensitivity of the current account balance to oil prices is large: a \$10 increase in oil prices (about 12 percent) would lead to an increase in the CAD of about 0.6 percent of GDP. A

³ This suggests that according to the macroeconomic balance approach, the real effective rupee is slightly undervalued, but the average of estimates in the CGER suggests that the rupee is in equilibrium.

⁴ The projections are broadly in line with the mean of Consensus Forecasts released in November, which show a deficit of 3.3 (3.5) percent of GDP in 2010/11 (2011/12).

10 percent depreciation of the rupee is estimated to lower the trade balance by 0.2 percent of GDP in 1½-2 years.

7. **India's CAD has been financed mainly by FDI and portfolio equity inflows.** FDI has recently averaged 1-1.5 percent of GDP, covering nearly half of the recent CADs and has proved resilient during the global crisis. With India's high growth continuing to attract significant FDI inflows,⁵ FDI could finance a third of India's CAD, even if the latter were to remain in the range of 3-4 percent of GDP. Portfolio equity investment has financed about a third of the CAD in recent years, but has been more volatile than FDI. Despite occasional spikes in volatility, FDI and portfolio equity inflows should remain strong over the medium term, as India's growth should continue to outpace that of the rest of the world.



8. **Although India's CAD is expected to be more than fully financed by projected capital inflows, a reversal of the latter could lead to disruptive adjustments.** Capital flow volatility, particularly in \$ terms, has increased, which could lead to sizable adjustments in domestic investment in the case of a sudden stop in inflows or large outflows as in 2008/09. Portfolio equity flows have been strongly associated with investment, and a decline in inflows would likely lead to a decline in investment and overall activity growth.⁶ In the case of a sudden stop in capital inflows, reserves could be used and the exchange rate could provide some relief, as a depreciation of the rupee would help reduce the trade deficit. However, the effect of the REER on the trade balance is relatively small and would take time to materialize.

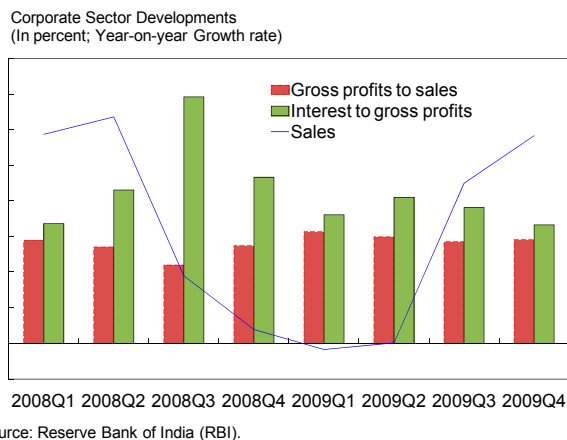
9. **Several indicators suggest that India's external vulnerability compares well to other emerging markets.** India has a high reserve coverage (182 percent of short-term debt and current account deficit), low external debt (94 percent of exports), small private external debt (15 percent of GDP), and close to equilibrium REER. While India's vulnerability seems low, it is difficult to assess the likelihood of a sudden stop in capital flows.

⁵ Walsh and Yu, 2010, "Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach", IMF Working Paper.

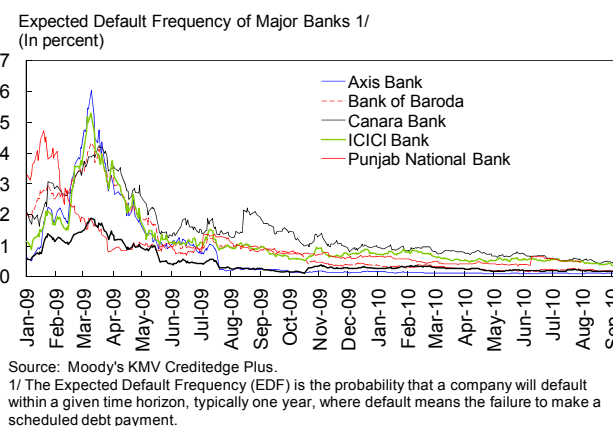
⁶ Simple vector autoregressions suggest that a 1 percent of GDP portfolio equity outflow leads to a 2 ppt decline in investment growth.

ANNEX 5. FINANCIAL STABILITY AND REFORMS¹*Financial soundness indicators*1. **The deterioration in banks' asset quality since the financial crisis has been**

contained. The gross nonperforming assets (NPA) ratio edged up to 2.4 percent in 2009/10 from 2.3 percent in 2008/09, but less than earlier anticipated. This NPA ratio does not take into account a special allowance for banks to restructure some loans (which amounted to less than 3 percent of total loans), introduced by the RBI as part of its crisis response, without which the NPA ratio may have been moderately higher.

2. **Any further upturn in the NPA ratio is likely to be modest.** The authorities estimate that about 15 percent of restructured loans may eventually turn nonperforming, less than earlier expected.

Indian banks' exposure is largely to the corporate sector, so the NPA level closely reflects firms' performance. Financial results of 2600 companies show that corporate performance has strengthened with higher profits and lower interest payments. This is reflected in the expected default frequency of major Indian banks, which has declined. The recent difficulties of microfinance



institutions (MFIs) in loan collection may have a negative impact on banks' asset quality, but banks' exposure to MFIs is only 0.2 percent of total credit. A bigger risk would be a general deterioration in credit culture if MFI borrowers were allowed to stop repayments.

3. **The banking system remains well-capitalized.** The capital adequacy ratio (CAR) for all scheduled commercial banks rose to 14.5 percent in 2009/10 from 14 percent (Basel II calculations) in 2008/09, well above the required 9 percent². Tier I capital makes up 70 percent of total capital and does not include items to be deducted under the newly

¹ Prepared by Xiaoyong Wu.

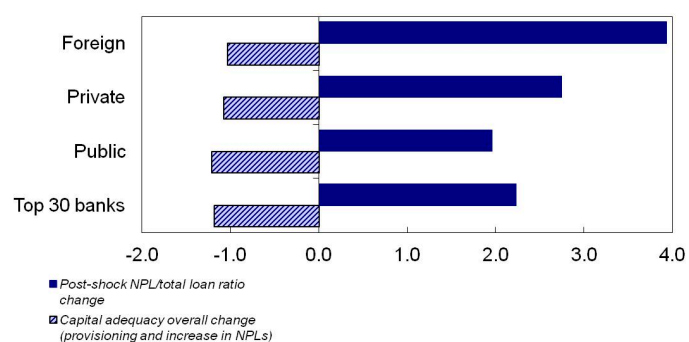
² The CAR calculated under Basel I would be 13.2 for 2008/09 and 13.6 for 2009/10 as shown in Table 9.

announced Basel III capital framework, entailing that implementation of Basel III would have little immediate impact on Indian banks³. A quantitative impact study conducted by the Basel Committee, in which ten large Indian banks participated, showed that Indian banks would not likely be stressed by the implementation of the new capital standards.

4. Staff's stress tests indicate that the CAR for the top 30 banks would remain above the RBI's regulatory minimum even under a scenario of a doubling of NPAs from their March 2010 level.

The CAR of a few small public sector banks (PSBs), however, would fall below the 12 percent intended by the government. Foreign banks in the sample reported large increases in NPAs during the financial crisis, and a further 100 percent increase in NPAs would increase their NPA ratio by another 4 percentage points.

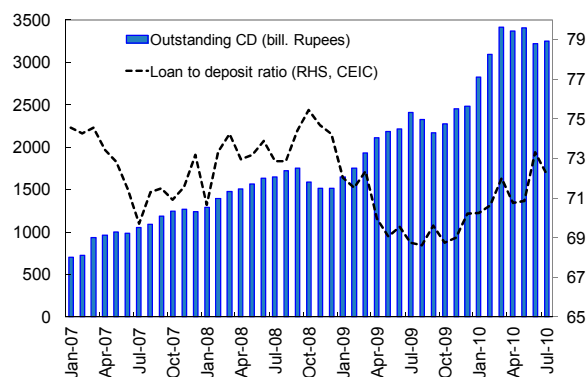
Change in Selected Banking Sector Soundness Indicators 1/
(Impact of a 100 percent increase in NPLs with 70 percent provisioning, in percentage points)



Sources: Bankscope; and Fund staff estimates.
1/ Top 30 banks by asset size as of March 2010. Balance sheet information for fiscal year ending 2009/10 is used for the calculations where available. Simple average is used across bank categories.

5. PSBs would need to raise new capital to support credit growth over the medium term even without the increase in NPAs assumed in the stress tests. At a credit growth rate of 15 percent, PSBs will require some 3 percent of 2010/11 GDP in new capital in the next five years to maintain a CAR of 9 percent under the Basel II framework. The capital requirement rises to 4.3 percent of 2010/11 GDP if the PSBs maintain a CAR of 12 percent. The government, however, has already embarked on recapitalizing the PSBs, supported by a \$2 billion loan from the World bank and is considering injecting additional funds.

6. Bank lending has rebounded with increased wholesale funding. Bank loans rose 19 percent (y/y) in Q3 2010 compared with 12 percent in Q4 2009. With deposit growth not keeping pace, the loan-to-deposit ratio has risen. Banks are raising more funds from the wholesale market, especially via certificates of deposits (CDs) to institutional investors: CDs now account for 7 percent of total deposits compared to 4 percent in 2008.



Source: Reserve Bank of India (RBI).

³ Under Basel III, capital quality standards will be tightened and a new capital conservation buffer will be introduced, but the minimum total capital plus conservation buffer will remain at 8 percent until 2015, with a phased increase to 10.5 percent at the beginning of 2019.

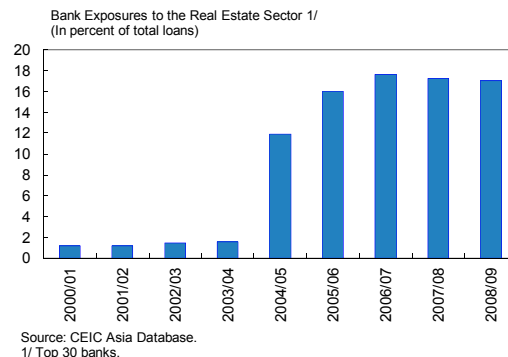
7. **The financial crisis has had some negative impact on banking profitability.**

Banks' return on equity (ROE) declined to 14.3 percent in 2009/10 from 15.4 percent in 2008/09. Income from securities and foreign currency trading fell considerably as a result of the financial crisis, but the decline was partially offset by growth in other operating income. The net interest margin remained broadly unchanged during 2009/10. Nevertheless, banks' interest expense are on the rise with the recent upturn in deposit rates and the accrual of interest on savings deposits on a daily basis from April 2010. In addition, banks' provisioning coverage for NPAs was at 52 percent at the end of March 2010, and the increase in the provisioning requirement to 70 percent by September 2010 would have put additional pressure on banks' profit margins.

Risks to the outlook

8. **Credit risk remains the main risk in the banking system.** The credit cycle is just at the beginning, but some special provisions to stimulate infrastructure financing could result in lower lending standards. The transition to Basel II, which has raised the CAR for banks by lowering the risk weights based on external credit ratings, may also give banks a false sense of strength in their balance sheet and encourage increased risk-taking.

9. **Growing maturity mismatches have increased liquidity risk.** Increased exposure to real estate and infrastructure is lengthening the maturity of banking assets. Meanwhile, bank CD issues have increased rapidly as a funding source, the bulk of which is purchased by mutual funds (MFs). As evidenced during the financial crisis, funding provided by MFs can be volatile. However, the higher reliance on CDs could turn to be temporary if banks are successful in attracting deposits after having raised deposit rates and lending for residential mortgages may slow after the recent RBI's measures (see below).



10. **Interconnectedness of banks, MFs, and nonbank financial companies (NBFCs) has a bearing on funding risks.** About two-thirds of MF assets are invested in debt securities, of which about half are bank CDs. MFs also purchase CPs and bonds issued by NBFCs—which include leasing companies, housing finance companies, mortgage guarantee companies and infrastructure finance companies. Therefore, large outflows from mutual funds could cause funding strains for both banks and NBFCs. In addition, NBFCs also borrow from banks, and strains in the wholesale market could have negative effect on banks' asset quality if NBFCs encountered repayment difficulties.

Reform initiatives

11. **The authorities have implemented countercyclical capital and provisioning requirements.** At the onset of the crisis, risk weights and provisioning ratios were lowered on credits to sectors including housing, capital markets and commercial real estate. As the economic recovery took hold, the provisioning ratio on loans to commercial real estate was raised from 0.4 percent to 1 percent.

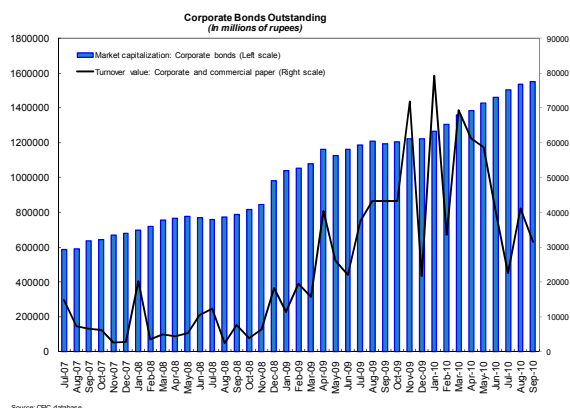
12. **The latest macroprudential measures are aimed at the housing sector.** These include the introduction of an 80 percent cap on the loan-to-value (LTV) ratio on mortgages, and an increase in the risk weights to 125 percent from 100 percent on mortgages of Rs 7.5 million or more. Also, the provisioning on standard assets has been raised to 2 percent for mortgages with “teaser interest rates”, loans with an initial low interest rate followed by higher rates later.

13. **Facilitating infrastructure investment has been a financial reform priority.** More than 80 percent of infrastructure projects are financed by PSBs, which face increasing asset/liability mismatches because of the extended maturity of infrastructure loans. To address this issue and provide more infrastructure financing, the India Infrastructure Finance Co. Ltd. (IIFCL) has implemented a Takeout Financing Scheme to purchase infrastructure loans from PSBs. The IIFCL is also considering plans to provide guarantees for bond issued by infrastructure companies. In addition, the authorities have taken several other measures to enhance infrastructure financing:

- A new category of institutions, called NBFC-IFCs, were created, with a minimum of 75 percent of its total assets deployed in infrastructure loans. These NBFCs were allowed to issue tax exempt bonds.
- In September 2010, the limit on foreign investment in corporate bonds was lifted from \$15 billion to \$20 billion, with the increment reserved for infrastructure company bonds with a residual maturity exceeding 5 years.
- Commercial banks were allowed not to mark to market bonds issued by infrastructure companies with a minimum residual maturity of seven years.
- Banks were allowed to classify a loan as standard for a maximum of four years (instead of two) if the infrastructure project cannot start operation on the due date.
- The provisioning ratio was reduced from 20 percent to 15 percent for infrastructure loans classified as sub-standard for which banks have a clear and legal first claim on the cash flows of the projects.
- The risk weights of banks’ exposures to well-rated NBFC-IFCs were lowered by linking the risk weights to ratings assigned by rating agencies.
- The 2010/11 Budget introduced a deduction of an additional amount of Rs. 20,000 on tax savings for investment in long-term infrastructure bonds.

14. **The corporate bond and CP market has expanded quickly.** Growth in corporate bond and CP issuance has outpaced credit growth in recent years partly in response to the authorities' reform initiatives, including listing and reporting requirements, higher FII participation, and repos with corporate bonds.

The amount of listed corporate bonds has risen 58 percent since December 2008, while outstanding CP has almost tripled, with higher trading volumes. Corporate bond issuance is dominated by highly-rated companies, especially public sector ones, and liquidity is limited. Domestic institutional investors' participation remains low and issues surrounding stamp duties and withholding taxes also hamper market deepening.



15. **Supervision of financial conglomerates is being strengthened.** A mechanism for monitoring financial conglomerates has been in place since 2004, and the RBI has started quarterly on-site inspections using the CAMELS framework. An enhanced revised off-site reporting system has been introduced. Financial conglomerates are now required to deduct from their capital investments in excess of 20 percent of a subsidiary's equity, compared with a previous 30 percent. To prevent regulatory arbitrage, the RBI is seeking convergence of regulation of banks and financial conglomerates.

16. **The RBI has issued a discussion paper on new banking licenses.** The paper discusses the pros and cons of licensing new banks, allowing the conversion of NBFCs into banks and allowing large industrial houses to own banks. There are safety, soundness and legal concerns with non-financial companies owning banks, and the ability to supervise the banking activity of non-financial companies will be critical. A proper supervisory structure would be essential, one that requires banking activities of the non-financial group be conducted within a tiered holding company subject to prudential regulation with thick firewalls between its banking activities and the group's other activities.

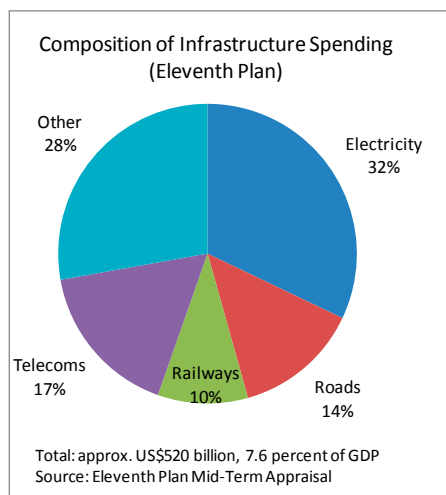
17. **Regulatory reform is moving forward.** Following up on the authorities' 2009 self-assessment on financial stability, the authorities announced in the 2010/2011 budget a Financial Sector Legislative Reforms Commission to rewrite and streamline financial sector laws. The government has also proposed a Financial Stability and Development Council (FSDC) chaired by the Finance Minister to deal with inter-regulatory coordination, financial stability as well as financial development issues. Close consultation with financial regulators would be important to dispel any concern about regulatory independence.

ANNEX 6. INFRASTRUCTURE FINANCE: INDIAN CHALLENGES AND COUNTRY EXPERIENCES

India's Infrastructure: Plans and Challenges

1. **Increased investment in infrastructure is one of the government's top policy priorities.** India's 11th Plan (2007/08 to 2011/12) specifies a large increase in infrastructure investment among its major goals:

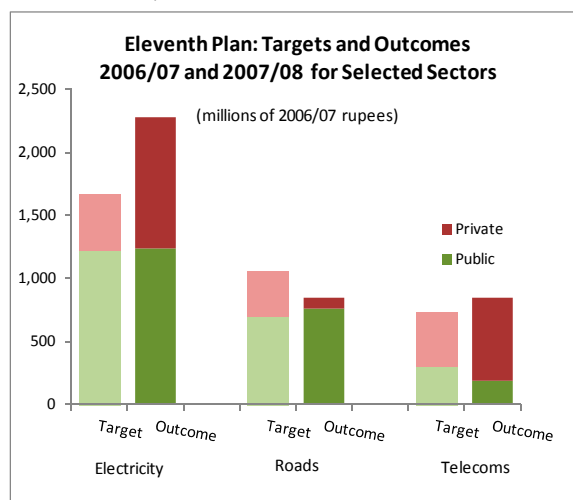
The Eleventh Plan (2007-08 to 2011-12) aims at a sustainable growth rate of 9 per cent with emphasis on a broad-based and inclusive approach that would improve the quality of life and reduce disparities across regions and communities. There is consensus that infrastructure inadequacies would constitute a significant constraint in realising this development potential. To overcome this constraint, an ambitious programme of infrastructure investment, involving both public and private sector, is being developed for the Eleventh Plan.¹



2. **The 11th Plan aimed at a large shift toward infrastructure investment.** During the period of the 10th Plan, infrastructure investment totaled 5.1 percent of GDP. A goal of the 11th Plan is to raise this to 7.6 percent of GDP, a total which would now exceed the US\$500 billion target announced at the beginning of the Plan. With energy shortages a problem in much of the country and poor transportation infrastructure a major impediment to investment, these two sectors were the two main foci of the Plan.

Investment

in electricity, including generation and transmission, was slated to account for a third of infrastructure investment. Roads and railways would account for another quarter. With such large investments envisaged, and with little fiscal space available, the Planning Commission (PC) also aimed for increased private sector participation in infrastructure finance, with a goal set of ensuring 1/3 private participation in most categories.



¹ Government of India, Planning Commission (Secretariat for the Committee on Infrastructure), *Projections of Investment in Infrastructure During the Eleventh Plan*. New Delhi: 2007.

3. ***Progress has been uneven across sectors.*** The authorities published a Mid-Term Appraisal of the 11th Plan in mid-2010. With final data available for 2007/08 and 2008/09, overall infrastructure investment exceeded original targets by a small margin. But private investment in telecommunications greatly exceeded the original targets, while investment in roads was disappointing. Moreover, costs in many areas were higher than originally forecast, mainly due to difficulties with land acquisition and higher capital equipment prices. Despite the overperformance in investment in power generation capacity, the output target of 78.7 GW has now been reduced to 62 GW.

4. ***A further acceleration of infrastructure investment is envisaged for the remainder of the 11th Plan, and the 12th Plan.*** To reach the revised 11th Plan targets, infrastructure investment would likely have to rise from an estimated 7.2 percent of GDP in 2008/09 to around 8.4 percent of GDP in 2011/12, the final year of the 11th Plan. Additionally, a target of US\$ 1 trillion for infrastructure has been widely discussed for the next Plan, likely entailing infrastructure investment of 9-10 percent of GDP.

5. ***There are roadblocks in the way of this acceleration of investment.*** Several reports share many findings, such as:

- **Finance.** The focus on private sector involvement in the 11th Plan has laid bare the difficulty of financing large infrastructure projects, given India's bank-dominated financial system, shallow corporate debt market, capital account controls, and fiscal dominance. The main constraint is the availability of long-term rupee debt financing which so far has been provided by banks, exposing them to maturity mismatches. The authorities have begun to address these constraints (see Annex 5 for recent measures).
- **Public sector capacity.** Many areas where infrastructure investment has lagged under the 11th Plan (e.g., railway stations, ports, roads) are areas in which PPPs have been successful in other countries. India has a broad PPP program, but the authorities' execution capacity has reportedly been a constraint at times.
- **Government clearances.** Overlapping levels of government and a wide array of public sector stakeholders have added to implementation risks. Some states, such as Tamil Nadu, have moved to simplify procedures and unify oversight into a single office, but such progress has not been broadly imitated.
- **Land acquisition.** Government clearances can be particularly difficult to obtain where land acquisition is involved, with numerous restrictions related to environmental, social, political and economic concerns each requiring separate settlement, sometimes in legal settings. This greatly adds to implementation risk of projects and discourages foreign companies from entry. A bill in Parliament to address this has been stalled for some time.
- **Limited capacity of contractors.** There are few domestic companies in India with the capacity to engage in very large infrastructure projects, and many of which are subsidiaries of large diversified conglomerates, concentrating risks. Smaller construction companies face difficulties in hiring skilled labor, dealing with regulatory complexity and access to finance, while foreign companies are discouraged by regulatory and implementation risk.

Cross Country Analysis

6. ***An IMF staff study looks at how other emerging markets have financed infrastructure investments***². Have countries financed large infrastructure booms via domestic savings? And if so what has been the role of public versus private savings? If not, have some countries relied to a large extent on foreign capital? What type of capital financed infrastructure? Did countries rely more on banks or on capital markets? These are some of the questions that the study attempts to find answers to. It does so in two parts: in the first, the study analyzes the behavior of the main macroeconomic variables at times when countries experienced infrastructure booms. This is based on a large data set, including 105 countries and spanning 1980 to 2009. The second part consists of four case studies of Brazil, Chile, China, and Korea and aims at providing more insights into the type of financial instruments used.

Cross Country Macro

7. ***A first pass through the data identifies booms in infrastructure investment and looks at the macroeconomic conditions preceding and during such booms.*** Highways and electricity generation are two focal areas for India's infrastructure push and are also areas in which the outputs to investment, namely roads and electrical generation capacity, are easily available³. Booms are identified as three-year periods during which the growth in mileage of paved roads or installed electrical generation capacity exceeded the unconditional 1980-2009 average by significantly more than 1 standard deviation for roads or ½ standard deviation for energy. Assessing whether macroeconomic variables during those periods also differed significantly from their long-run means provides some indication of how infrastructure booms are financed.

8. ***Across many countries, especially developing countries, large investments in infrastructure are preceded by periods of rapid growth.*** Rapid growth leads to strains on energy capacity, driving investment in additional generation. To a lesser extent the same is true with road construction. Similarly, and as other studies have found, growth is significantly higher in periods after such large investments in energy and roads.

9. ***Energy generation investment is not associated with deteriorating current account positions, while this is more common for road construction.*** Investment in energy generation is generally preceded by strong current account performance, and balances do not tend to worsen during periods of investment, implying that domestic savings are the marginal source for finance. Roads investment also tends to be preceded by strong current account balances, but, for investment in highways, it would appear that foreign savings are more likely to be tapped, or perhaps that there is more reallocation of domestic savings.

² C. Park, J.P. Walsh and J. Yu (2010), "Financing Infrastructure in Emerging Markets," manuscript.

³ For roads the indicator used is mileage of paved roads, which may be problematic in developed economies where roads investment is focused on upgrades to already paved roads rather than new construction.

10. ***Public financing, particularly deficit finance, is important in energy investment.***

Booms in energy generation capacity tend to follow periods of improving fiscal balances, presumably as rapid growth fills government coffers, though this improvement tends to dissipate during the boom as capital spending rises. For roads the story is somewhat different: roads investment also tends to lag periods of superior fiscal performance, but roads do not lead to deficit financing. What seems likely is that energy generation is more of a political priority than roads or private investors are more likely to invest in roads than in power generation, leaving the latter to the public.

11. ***Periods of rapid investment in energy and roads capacity do not appear to be linked to periods of unusual expansion of credit, either from banks or in debt markets.***

This means only that such infrastructure booms do not lead to appreciable financial deepening: either the resources harnessed by the private sector are relatively small on average, or they are diverted from other areas. This diversion could be beneficial, as the returns to infrastructure investment could be quite high if growth constraints are what lead to the boom.

12. ***A closer look at how four other emerging market countries have financed infrastructure shows highly heterogeneous experiences.*** The effects discussed above are averages across countries, and conceal important differences in how countries have addressed the issue of infrastructure constraints. The lack of significance of private sector financial variables is also somewhat disappointing, given the focus in many countries on additional private sector involvement in infrastructure. Staff analysis therefore looked in detail at how Brazil, Chile, China and Korea have financed infrastructure investment.

Case Studies

Brazil

13. ***Long-term finance in Brazil relies substantially on the national development bank, BNDES.*** High interest rates and a legacy of Brazil's historically high inflation complicate long-term borrowing despite a sophisticated financial system. Much long-term lending is therefore done through BNDES, which is state-owned. BNDES, with some input from the government, sets lending rates for a wide variety of infrastructure projects. The base rate for these loans is well below even short-term market rates, and can be changed to direct lending. As part of a current program to build up infrastructure before the 2014 World Cup and 2016 Summer Olympics, a decision was made to reduce lending spreads to various infrastructure sectors in order to stimulate lending. However, concerns have been raised by many that the dominance of a state-owned (and taxpayer-subsidized) lender in long-term financing has distorted the financial sector and slowed the development of a more traditional long-term debt market.

14. ***While the energy sector is fragmented, state-run Eléctrobras is the dominant generator.*** Most electricity generation is hydroelectric, and Eléctrobras is the largest operator of hydro plants. It also dominates generation and transmission directly and through subsidiaries, and has recently begun to invest abroad. The government holds 52 percent of

common shares, but Eléctrobras is listed in Sao Paulo, New York, and Madrid, and issues debt both domestically and internationally. Private investments by other companies have not been as profitable as those of Eléctrobras, though the government hopes the faster pace of economic growth as well as the recent cuts to BNDES lending rates will change this in the future.

15. ***The private sector has become more influential in financing highway construction in recent years.*** Around 8 percent of national highways are now run by concessionaires on a for-profit basis, though these are concentrated in the richest and most developed parts of the country. In 2004 the government passed a law allowing joint public-private financing of infrastructure investment, which despite some roadblocks, have also been successful, particularly at the state level and with railroads. Concessionaires tend to be active issuers of stock and some concessions have been attractive to foreign investors. Debt finance, however, remains dominated by BNDES, with bank financing generally limited to short-term or trade finance. Multilateral lending has also been an important source of long-term debt funding.

Chile

16. ***Chile's pro-business environment and successive waves of financial liberalization have led to infrastructure investment dominated by the private sector.*** Chile's influential privatized pension system funneled workers' savings into asset managers, leading to rapid growth in its equity market (with a capitalization now at 144 percent of GDP), long-term debt market, and insurance industry. Assets under management by the pension funds totaled 65 percent of GDP in 2009, while the insurance industry held an additional 22 percent. The government's transparency and openness have also made it a favored destination for foreign investment.

17. ***The energy sector is entirely privatized, with extensive foreign participation.*** Both generation and transmission are effectively controlled by a small number of large companies. During Chile's period of rapid growth in the 1990s, the country's pension funds were a crucial source of funds for equity issuance, but in more recent years the increasing presence of strategic foreign investors from Europe and North America has reduced most companies' floats. These companies are also active issuers of debt in Chile's corporate bond market. With investment grade credit ratings, domestic issues are mostly purchased by insurance companies and pension funds, but firms also issue in international markets.

18. ***Roads construction and upgrading is largely done through PPPs.*** Beginning in the 1990s, when the country upgraded the main north-south highway, PPPs have become a routine way for the government to build and upgrade major roads across the country. While few PPPs have run into financial difficulties, the large size of the program led the government to disclose the contingent liabilities of these programs in the budget, based on a sophisticated analysis of possible cash flows. PPPs attract substantial FDI, both at the initial phase and later on as construction companies have sold their contracts to outside investors. But the main source of financing has been via debt, which Chilean companies have generally wrapped by foreign monoline insurers policies to broaden the range of possible investors.

China

19. ***The state-run financial system has been the primary source of finance for infrastructure investment.*** Banks devote large shares of their loan portfolios (ranging from 18 up to 40 percent) to investments in infrastructure and one bank, the China Development Bank, is focused largely (74 percent of assets) on investments in that area. Corporate bonds, often with credit guarantees provided by banks or other entities, have become more important in recent years. Local governments, which finance themselves via usage fees on land (land premium) that rise as infrastructure improves, also guarantee much infrastructure lending.

20. ***Energy generation is dominated by five state-owned enterprises, but there are many small private companies as well.*** Smaller companies are active in the equity market, but large-scale investments by SOEs tend to be bank financed. In general, investment in energy generation has not been profitable, as input costs, such as coal, have been liberalized more than user rates. Government regulation and the difficulty of obtaining permits have also complicated private investment in energy.

21. ***A boom in roads has been catalyzed by local governments.*** With much of their revenue coming from land premiums, local governments in China have tried to channel funding into roads. Around one third of funding for road construction comes from local governments directly, while another third comes from bank loans. Private SPVs have also become quite large in some cases, with many issuing debt in local markets and 20 now listed on equity exchanges.

Korea

22. ***While Korea's financial sector is large and sophisticated, infrastructure investment remains largely a public-sector phenomenon.*** Infrastructure investment grew rapidly during the country's sustained boom from the 1960s to 1980s, but has tapered off in recent years. In 1994, a law was passed to facilitate private investment in infrastructure projects, but its coverage was limited. Following an amendment in 1999, private involvement in infrastructure rose to around 20 percent of the total.

23. ***The Korean Electric Power Corporation (KEPCO) dominates the energy sector.*** KEPCO was fully state-owned from 1981 to 1989, when 21 percent of shares were sold. The company actively issues stock, but there are restrictions of the number of shares foreigners can buy, as well as a legal requirement that the share of government ownership not fall below 51 percent. Such a large company has access to the full array of financing sources, and KEPCO also actively issues investment-grade debt domestically and abroad.

24. ***Until recently, highway construction was undertaken almost entirely by public sector entities.*** The Korean highway network expanded rapidly during the 1960s, financed almost entirely by a national highway corporation which borrowed money from banks and multilateral lenders, as well as by issuing sovereign-backed bonds. Another boom occurred during the 2000s, but with greater use of bond issuance, both domestic and international.

With the improved environment for private participation, around one quarter of the mileage added during this period was built by private companies, some of which enjoyed support from a public infrastructure fund.

Lessons for India

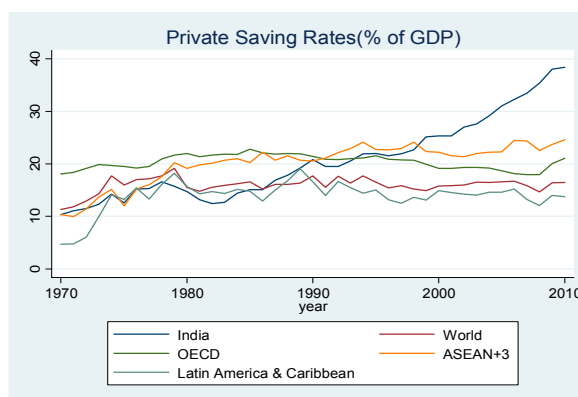
25. ***Large infrastructure needs can be met domestically, though foreign participation can be beneficial.*** Capacity increases such as India envisages for the remainder of the 11th Plan and the 12th Plan have in many countries been accommodated within a country's domestic savings envelope, particularly for energy investments. But companies like KEPCO and Eléctrobras have used international debt issues to finance infrastructure investments (Eléctrobras also has foreign listings to raise equity finance abroad), and FDI has been an important source of funding for roads and energy in Chile.

26. ***Private funds can be catalyzed into infrastructure investment in a variety of ways.*** With fiscal space relatively scarce, India will have to improve the environment for private sector investment in infrastructure. Fiscal resources can be leveraged via guarantees, as local governments in China do with bank loans for infrastructure projects, or via PPPs, as Chile has done. China and Brazil also both use public financial enterprises to channel lending into infrastructure projects, though this can create other problems. BNDES' dominance of the long-term lending market in Brazil worries many observers, and the concentration of lending risk in infrastructure in China may raise financial risks.

27. ***The business climate for private investment is also very important.*** In China, private investment in energy has been slowed by government red tape and the varying pace of price liberalization across different markets. In Korea, the PPP industry did not take off until the government passed laws that broadened the scope of the original legislation. Chile has been extremely successful at mobilizing private finance for infrastructure, but a World Economic Forum report on its successes cited not only its open equity market, relatively well-developed corporate bond sector and general economic stability but also its "extremely well-developed e-government services, clear information on policy changes, transparency and openness of statistics publications, and dialogue and decision-making process."

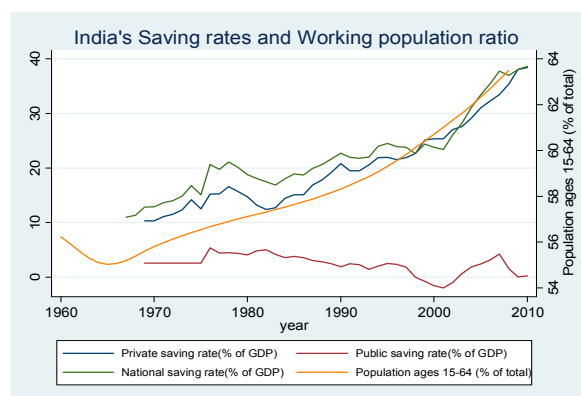
ANNEX 7. WHAT IS THE OUTLOOK FOR PRIVATE SAVING IN INDIA? EVIDENCE FROM DYNAMIC MACRO PANELS¹

1. **India's private saving has risen sharply since the early 2000s.** The increase in India's saving ratio is sizable when compared against a large panel of emerging and advanced economies. Private saving increased from 24 percent of GDP in 2000 to 35 percent of GDP in 2009. This has coincided with the rise in investment, and more recently with the acceleration in growth.



2. **Since investment is forecast to continue to grow faster than GDP, understanding the determinants of private saving is key to assess the extent to which India will need to tap foreign saving to finance investment.**

While the current account deficit has widened in recent years, several factors point to a continuation of rising private saving, at least over the medium term. First, India's saving will continue to benefit from the increase in the working-age dependency ratio. Growth in income should help increase the overall saving ratio as many households surpass their subsistence level of consumption. The effects



of other factors can only be determined empirically. For instance, private saving may decline as a result of fiscal consolidation, but this will depend on the extent to which Ricardian equivalence holds. For example, in a country with low debt levels (and a low Ricardian offset) a 1 percent of GDP decline in public saving is likely to lead to less than 1 percent of GDP increase in private saving, which would contribute to an overall decline in *national* saving. In the case of a highly indebted country, the increase in private saving may match the decline in public saving, with no effect on national saving.

3. **To shed light on the determinants of private saving in India, we estimate a dynamic panel regression covering 130 countries spanning the period 1970-2009.** The empirical model posits that private saving is determined by its lagged value (to account for the persistence of macroeconomic variables), GDP per capita, growth in GDP per capita,

¹ Prepared by Roberto Guimarães.

public saving (to assess the extent of “Ricardian offset”), young-age dependency ratio, old-age dependency ratio, life expectancy, real interest rate, financial development, terms of trade, and other variables, including proxies for macroeconomic stability, as well as time- and country-fixed effects.² The times series results for India justify the use of panel data since the former yield mostly insignificant coefficients, likely because of the short time span and persistence in the data. Despite considerable macroeconomic heterogeneity in such a large panel of countries, the panel regression estimates are much more precise and robust. The baseline results (full panel sample) are presented in the table below.

Private saving: Full Panel Sample

	(1)	(2)	(3)	(4)
	Pooled OLS	FE with lagged variable	Difference GMM	System GMM
Lagged private saving rate (% of GDP)	0.524 [0.0891]***	0.344 [0.0664]***	0.3433 [0.1207]***	0.2723 [0.1130]**
log of GDP per capita	0.0849 [0.4207]	3.4449 [1.6406]**	0.4029 [4.1174]	1.2832 [2.2156]
GDP per capita growth (%)	0.1399 [0.0481]***	0.1223 [0.0409]***	0.1566 [0.0760]**	0.1921 [0.0648]***
Public saving rate(% of GDP)	-0.0816 [0.0548]	-0.2633 [0.1384]*	-0.5586 [0.2191]**	-0.5121 [0.2780]*
Age dependency ratio, young (% of working-age population)	-0.0658 [0.0271]**	-0.065 [0.0652]	-0.1652 [0.0960]*	-0.182 [0.0895]**
Age dependency ratio, old (% of working-age population)	-0.1469 [0.0681]**	-0.2895 [0.1470]*	-0.2962 [0.2208]	-0.5753 [0.2755]**
Life expectancy at birth, total (years)	0.0934 [0.0465]**	0.2446 [0.0649]***	0.2287 [0.1078]**	0.1372 [0.1958]
Real interest rate (%)	-0.0501 [0.0191]***	-0.0578 [0.0199]***	-0.0642 [0.0428]	-0.0704 [0.0224]***
M2/ GDP (%)	0.0217 [0.0121]*	-0.0028 [0.0186]	-0.0118 [0.0427]	0.0221 [0.0389]
Domestic credit to private sector (% of GDP)	-0.0109 [0.0099]	-0.0311 [0.0119]**	-0.0253 [0.0150]*	-0.0654 [0.0229]***
Inflation volatility, s.d. of monthly CPI % changes	-0.0024 [0.0008]***	-0.0016 [0.0004]***	-0.002 [0.0010]**	-0.0017 [0.0007]**
Business cycle fluctuation	0.0676 [0.0772]	0.1567 [0.0787]**	0.2079 [0.1038]**	0.2191 [0.0994]**
Changes in terms of trade (%)	0.0283 [0.0134]**	0.0277 [0.0145]*	0.0307 [0.0123]**	0.0317 [0.0134]**
Test for AR(1) in first differences (p-value)	--	--	0.00	0.006
Test for AR(2) in first differences (p-value)	--	--	0.077	0.222
Number of Instruments	--	--	68	75
Hansen test of overid. Restrictions (p-value)	--	--	0.101	0.1
Observations	2544	2544	2358	2544
R-squared	0.68	0.76	--	--
Number of Countries	130	130	130	130

Source: staff estimates.

4. The results are relatively robust and conform to life-cycle theories of consumption and saving. The key findings include:

² The data are from the IMF’s WEO and the World Bank’s WDI. The variable selection is based on traditional theories of consumption.

- Demographic variables exert significant influence on private saving. For example, a 1 percentage point decrease in young-age (old) dependency ratio increase private saving by 0.2 (0.6) percentage points.
- The effect of fiscal policies on private saving is also important, but the results do not support Ricardian equivalence: a 1 percentage point decrease in public saving increases private saving by about 0.5 percentage points. The effect is significantly larger for countries with large public debt, meaning that for highly-indebted countries an increase in the fiscal deficit is almost fully offset by a concomitant increase in private saving.
- Interest rates generally have a small effect on saving and, consistent with other findings, the effect of financial development is generally ambiguous and statistically insignificant.
- Considerable macroeconomic heterogeneity is uncovered. For instance, the quantile regression estimates show that the impact of public saving and demographic ratios on private saving are larger for low-savers.

5. **The empirical model indicates that the rise in private saving in India could continue for 5-10 years.** According to these baseline projections, India's saving rate could increase by further 2-4 percentage points over the next 10 years as it would continue to benefit from favorable demographics for two more decades. However, simple conditional forecasts (assuming most regressors are constant at their end point value) point to a moderation of the recent trend. The projection assumes constant growth in GDP per capita, and an unchanged level of public saving. On balance, the envisaged fiscal consolidation should help increase *national* saving, but according to the empirical model, the effect of consolidation would be partly offset by private saving.

INTERNATIONAL MONETARY FUND

INDIA

Staff Report for the 2010 Article IV Consultation—Informational Annex

Prepared by the Asia and Pacific Department

December 6, 2010

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ANNEX I: INDIA—MEDIUM-TERM PUBLIC DEBT SUSTAINABILITY ANALYSIS

Macroeconomic Assumptions. India's recovery from the economic crisis is well underway, with growth forecast at $8\frac{3}{4}$ percent in 2010/11 led by infrastructure investment, but returning to trend, 8 percent, in 2011/12. Inflation is relatively high, falling only to $6\frac{1}{2}$ percent by end-2010/11, and falling gradually to 4 percent thereafter.

Fiscal Assumptions. Consolidation is underway, with the budget deficit of the general government expected to fall from $10\frac{1}{2}$ percent of GDP in 2009/10 to $9\frac{1}{2}$ of GDP in 2010/11, falling gradually in the medium term. The main operating assumptions are:

- Tax revenues will revive in 2010/11 as the economy returns to trend and will remain strong in the medium term as more of the economy shifts into the formal sector.
- The delayed Goods and Services Tax and new Direct Tax Code will be implemented in 2012/13, contributing through efficiency gains to greater collections.
- Spending growth will be strong in the near term, but over the course of the sample period be kept slightly below nominal GDP growth, contributing around $\frac{1}{3}$ of the total fiscal consolidation during the sample period.

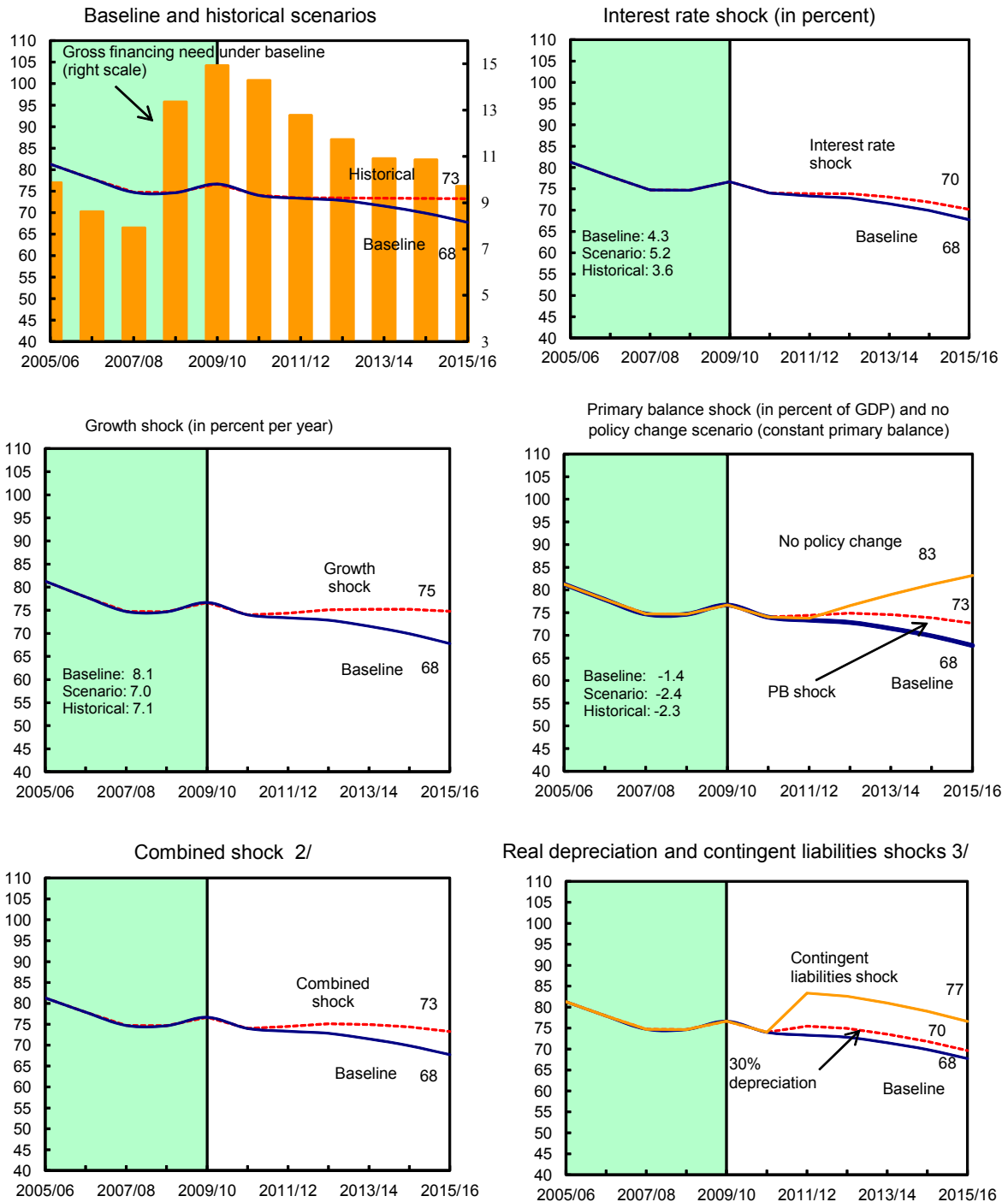
A. Sensitivity Analysis

Debt Path. General government debt would fall to 68 percent of GDP by 2015/16 from 77 percent of GDP in 2009/10. This downward trend is robust under most shocks. With little debt denominated in foreign currency, India is not vulnerable to shifts in exchange rates, and interest-rate sensitivity is also only a small risk given the long duration of its debt.

Other scenarios. A shock to growth in the near term would substantially slow consolidation and keep debt at close to current levels in the medium term. A need to finance contingent liabilities during the middle of the consolidation process would push debt above 2009/10 levels. In both cases, confidence could be damaged. The no policy change scenario presents a worse trajectory, but by assuming that the primary balance remains the same, it effectively assumes no recovery in revenues from crisis levels while this recovery is already underway.

Policy Risks. The authorities have ambitious consolidation goals. As described in the staff report, restraining spending could be challenging. Contingent liabilities, such as those stemming from PPPs, as well as the need to provide capital for public sector banks, could be a risk. While there is potential for higher revenues and disinvestment proceeds, these are more likely to be spent than to contribute to debt reduction.

Figure I.1. India: Public Debt Sustainability: Bound Tests 1/
(Public debt, in percent of GDP)



Source: Fund staff estimates; fiscal year data.

1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.

2/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and primary balance.

3/ One-time real depreciation of 30 percent and 10 percent of GDP shock to contingent liabilities occur in 2009, with real depreciation defined as nominal depreciation (measured by percentage fall in dollar value of local currency) minus domestic inflation (based on GDP deflator).

Table I.2. India: Public Sector Debt Sustainability Framework, 2005/06-2015/16
(In percent of GDP, unless otherwise indicated)

	Actual					Projections						Debt-stabilizing primary balance 9/
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	
1 Baseline: Public sector debt 1/	81.3	77.9	74.7	74.7	76.7	74.0	73.3	72.8	71.5	69.9	67.8	-1.9
o/w foreign-currency denominated	5.5	4.9	4.6	5.0	4.2	4.3	4.2	4.1	3.9	3.7	3.5	
2 Change in public sector debt	-2.8	-3.4	-3.2	-0.1	2.0	-2.7	-0.7	-0.5	-1.3	-1.6	-2.1	
3 Identified debt-creating flows (4+7+12)	-3.6	-5.9	-6.7	2.1	2.2	-1.1	0.1	-0.3	-1.0	-1.3	-1.9	
4 Primary deficit	1.0	-0.2	-1.4	4.1	5.0	4.6	4.2	1.3	0.7	0.5	0.1	
5 Revenue and grants	19.0	20.4	22.1	20.0	19.3	19.5	19.7	20.9	21.0	20.4	20.0	
6 Primary (noninterest) expenditure	20.0	20.1	20.8	24.2	24.3	24.1	23.9	22.2	21.7	21.0	20.1	
7 Automatic debt dynamics 2/	-5.0	-5.7	-5.6	-2.1	-3.2	-7.2	-4.5	-2.0	-2.2	-2.3	-2.4	
8 Contribution from interest rate/growth differential 3/	-5.1	-5.6	-5.2	-3.3	-2.7	-7.2	-4.5	-2.0	-2.2	-2.3	-2.4	
9 Of which contribution from real interest rate	1.7	1.1	1.3	0.1	2.5	-1.4	0.8	3.2	3.0	2.8	2.6	
10 Of which contribution from real GDP growth	-6.8	-6.6	-6.5	-3.4	-5.1	-5.8	-5.2	-5.2	-5.2	-5.1	-5.0	
11 Contribution from exchange rate depreciation 4/	0.1	-0.1	-0.4	1.2	-0.5	...	...	...	...	...	...
12 Other identified debt-creating flows	0.3	0.0	0.3	0.0	0.4	1.5	0.4	0.4	0.5	0.5	0.3	
13 Privatization receipts (negative)	0.0	0.0	0.1	0.0	0.4	1.5	0.4	0.4	0.5	0.5	0.3	
14 Recognition of implicit or contingent liabilities	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15 Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16 Residual, including asset changes (2-3) 5/	0.8	2.5	3.5	-2.1	-0.2	-1.5	-0.8	-0.2	-0.3	-0.3	-0.2	
Public sector debt-to-revenue ratio 1/	428.0	382.1	337.6	373.0	396.9	379.6	372.6	349.3	340.3	341.8	339.0	
Gross financing need 6/	9.9	8.6	7.9	13.4	14.9	14.3	12.8	11.7	10.9	10.8	9.7	
in billions of U.S. dollars	82.6	81.5	97.1	161.8	195.8	219.8	217.5	221.3	229.4	254.5	253.0	
Scenario with key variables at their historical averages 7/						74.0	73.4	73.4	73.3	73.3	73.2	-2.1
Scenario with no policy change (constant primary balance) in 2010/11-2015/16						74.0	73.8	76.6	79.0	81.2	83.2	-2.4
Key Macroeconomic and Fiscal Assumptions Underlying Baseline												
Real GDP growth (in percent)	9.3	9.4	9.6	5.1	7.7	9.0	8.1	8.1	8.1	8.1	8.1	
Average nominal interest rate on public debt (in percent) 8/	7.5	7.7	7.8	7.7	7.8	7.7	7.7	10.6	10.3	10.1	9.9	
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	2.8	2.0	2.4	0.6	4.0	-1.3	1.7	5.4	5.1	4.9	4.7	
Nominal appreciation (increase in US dollar value of local currency, in percent)	-2.0	2.5	8.6	-20.9	12.8	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	4.7	5.6	5.3	7.2	3.8	9.0	6.0	5.2	5.2	5.2	5.2	
Growth of real primary spending (deflated by GDP deflator, in percent)	9.2	10.1	13.1	22.2	8.3	8.1	7.1	0.4	6.1	4.3	3.8	
Primary deficit	1.0	-0.2	-1.4	4.1	5.0	4.6	4.2	1.3	0.7	0.5	0.1	

1/ General government (Center and States); debt refers to gross debt.

2/ Derived as $[(r - \pi(1+g) - g + \alpha\epsilon(1+r)] / (1+g+\pi+g\pi)$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; α = share of foreign-currency denominated debt; and ϵ = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

3/ The real interest rate contribution is derived from the denominator in footnote 2/ as $r - \pi(1+g)$ and the real growth contribution as $-g$.

4/ The exchange rate contribution is derived from the numerator in footnote 2/ as $\alpha\epsilon(1+r)$.

5/ For projections, this line includes exchange rate changes.

6/ Defined as public sector deficit, plus amortization of medium and long-term public sector debt, plus short-term debt at end of previous period.

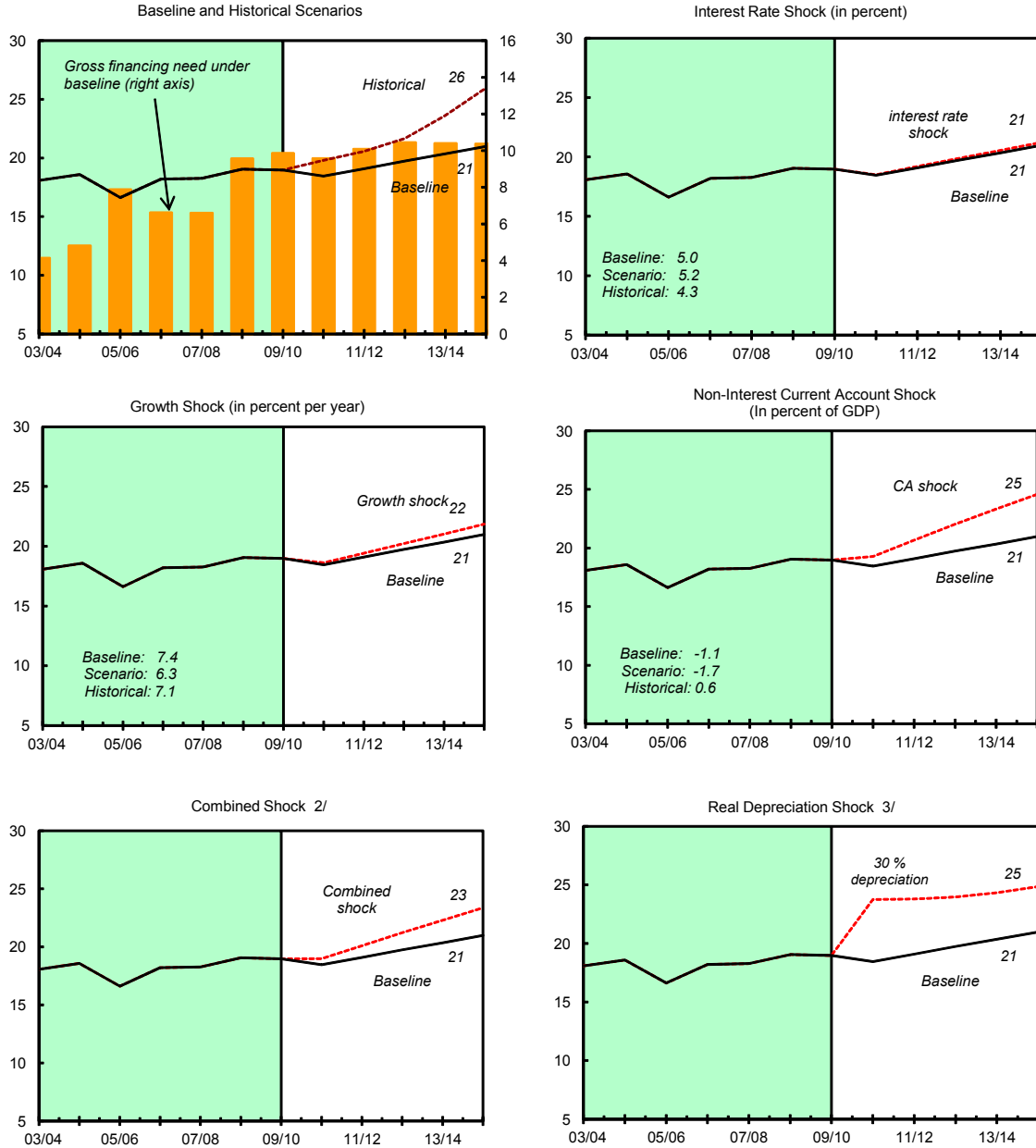
7/ The key variables include real GDP growth; real interest rate; and primary balance in percent of GDP.

8/ Derived as nominal interest expenditure divided by previous period debt stock.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

ANNEX II: INDIA—MEDIUM-TERM EXTERNAL DEBT SUSTAINABILITY ANALYSIS

**Figure II.1. India: External Debt Sustainability: Bound Tests 1/
(External debt, in percent of GDP)**



Source: Fund staff estimates.

1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.

2/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.

3/ One-time real depreciation of 30 percent occurs in 2007/08.

Table II.1. India: External Debt Sustainability Framework, 2005/06–2015/16

(In percent of GDP, unless otherwise indicated)

	Actual					Projections						Debt-stabilizing non-interest current account 6/ -4.3
	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	
Baseline: external debt	16.6	18.2	18.3	19.1	19.0	18.5	19.1	19.7	20.4	21.0	21.7	
Change in external debt	-2.0	1.6	0.1	0.8	-0.1	-0.5	0.6	0.6	0.6	0.6	0.7	
Identified external debt-creating flows (4+8+9)	-3.2	-2.5	-6.1	1.1	-1.2	-1.2	-0.8	-1.1	-1.8	-2.1	-2.4	
Current account deficit, excluding interest payments	0.6	0.4	0.6	1.7	2.4	2.6	2.6	2.4	1.8	1.6	1.2	
Deficit in balance of goods and services	3.4	3.4	4.3	5.7	5.0	5.2	5.0	4.5	4.0	3.6	3.2	
Exports	19.4	21.4	20.9	24.0	19.0	20.0	20.7	21.2	21.6	21.9	22.2	
Imports	22.9	24.8	25.2	29.7	24.0	25.2	25.7	25.7	25.6	25.5	25.5	
Net nondebt creating capital inflows (negative)	-1.9	-1.6	-3.5	-0.3	-2.7	-2.7	-2.5	-2.6	-2.9	-2.9	-2.9	
Net foreign direct investment, equity	0.4	0.8	1.3	1.4	1.2	1.3	1.3	1.3	1.5	1.5	1.5	
Net portfolio investment, equity	1.5	0.7	2.2	-1.2	1.5	1.4	1.2	1.3	1.4	1.4	1.4	
Automatic debt dynamics 1/	-1.9	-1.4	-3.2	-0.2	-0.9	-1.1	-0.9	-0.8	-0.7	-0.8	-0.7	
Denominator: 1+g+r+gr	1.2	1.1	1.3	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	
Contribution from nominal interest rate	0.6	0.6	0.7	0.7	0.5	0.4	0.4	0.5	0.7	0.7	0.9	
Contribution from real GDP growth	-1.5	-1.4	-1.4	-0.9	-1.3	-1.5	-1.4	-1.4	-1.4	-1.5	-1.5	
Contribution from price and exchange rate changes 2/	-1.0	-0.6	-2.5	...	...	...	...	...	...	...	...
Residual, including change in gross foreign assets (2-3) 3/	1.2	4.1	6.2	-0.3	1.1	0.6	1.5	1.7	2.4	2.7	3.0	
External debt-to-exports ratio (in percent)	85.4	85.0	87.5	79.4	99.8	92.3	92.2	93.3	94.3	95.7	97.4	
Gross external financing need (in billions of U.S. dollars) 4/	65.9	62.6	81.0	115.7	129.4	147.3	171.6	197.1	218.6	243.0	271.7	
In percent of GDP	7.9	6.6	6.6	9.6	9.9	9.6	10.1	10.4	10.4	10.4	10.6	
Scenario with key variables at their historical averages 5/						19.8	20.6	21.7	23.6	26.0	28.6	-2.4
Key macroeconomic assumptions underlying baseline												
Real GDP growth at market prices (in percent)	9.3	9.4	9.6	5.1	7.7	9.0	8.1	8.1	8.1	8.1	8.1	
GDP deflator in US dollars (change in percent)	6.2	3.3	18.3	-6.2	0.7	7.4	2.4	2.5	2.6	2.7	2.1	
Nominal external interest rate (in percent)	3.9	4.0	4.7	3.8	2.7	2.2	2.6	3.2	4.1	3.8	4.6	
Growth of exports goods and services (U.S. dollar terms, in percent)	26.7	24.5	26.6	13.3	-14.2	23.3	14.6	13.3	13.7	13.4	12.7	
Growth of imports goods and services (U.S. dollar terms, in percent)	30.5	22.7	31.6	16.4	-12.4	23.0	12.7	11.0	10.8	11.3	11.0	
Current account balance, excluding interest payments	-0.6	-0.4	-0.6	-1.7	-2.4	-2.6	-2.6	-2.4	-1.8	-1.6	-1.2	
Net non-debt creating capital inflows	1.9	1.6	3.5	0.3	2.7	2.7	2.5	2.6	2.9	2.9	2.9	
B. Bound Tests												
B1. Nominal interest rate is at historical average plus one standard deviation					19.0	18.5	19.2	19.9	20.6	21.2	22.0	
B2. Real GDP growth is at historical average minus one standard deviations					19.0	18.6	19.4	20.2	21.0	21.8	22.8	
B3. Non-interest current account is at historical average minus one standard deviations					19.0	19.3	20.7	22.0	23.3	24.6	25.9	
B4. Combination of B1-B3 using 1/2 standard deviation shocks					19.0	19.0	20.1	21.2	22.3	23.4	24.5	
B5. One time 30 percent real depreciation in 2010					19.0	23.8	23.8	24.0	24.3	24.9	25.6	

Source: Fund staff estimates.

1/ Derived as $[r - g - \rho(1+g) + ea(1+r)] / (1+g+p+g_p)$ times previous period debt stock, with r = nominal effective interest rate on external debt; ρ = change in domestic GDP deflator in U.S. dollar terms, g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as $[-\rho(1+g) + ea(1+r)] / (1+g+p+g_p)$ times previous period debt stock. ρ increases with an appreciating domestic currency ($e > 0$) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period. Short-term debt includes all the outstanding non-resident deposit accounts.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

ANNEX III: INDIA—FUND RELATIONS
(As of October 31, 2010)

I. **Membership Status:** Joined 12/27/45; Article VIII.

II. General Resources Account	SDR Million	% Quota
Quota	4,158.20	100.00
Fund holdings of currency	3,270.26	78.65
Reserve position in Fund	888.06	21.36

III. SDR Department:	SDR Million	% Allocation
Net cumulative allocation	3,978.26	100.00
Holdings	3,296.75	82.87

IV. **Outstanding Purchases and Loans:** None

V. **Financial Arrangements:**

Type	Approval Date	Expiration Date	Amount Approved (SDR million)	Amount Drawn (SDR million)
Stand-By	10/31/1991	06/30/1993	1,656.00	1,656.00
Stand-By	01/18/1991	04/17/1991	551.93	551.93
EFF	11/09/1981	05/01/1984	5,000.00	3,900.00

VI. **Projected Obligations to Fund** (SDR million; based on existing use of resources and present holdings of SDRs):

	Forthcoming				
	2010	2011	2012	2013	2014
Charges/interest	0.56	2.76	2.76	2.76	2.76
Total	0.56	2.76	2.76	2.76	2.76

VII. **Exchange Rate Arrangement:**

As per the Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER), the exchange rate in India is classified as floating. The exchange rate of the rupee is determined in the interbank market, where the Reserve Bank of India (RBI) intervenes at times. The RBI's role is to modulate excessive volatility so as to maintain orderly conditions. On August 20, 1994, India accepted the obligations of Article VIII, Sections 2, 3, and 4 of the IMF Articles of Agreement. India maintains the following restrictions on the making of payments and transfers for current international transactions, which are subject to Fund approval under Article VIII, Section 2(a): restrictions related to the nontransferability of balances under the India-Russia debt agreement; restrictions arising from unsettled balances under inoperative bilateral payments arrangements with two Eastern European countries; and a restriction on the transfer of amortization payments on loans by non-resident relatives. The Executive Board has not approved these restrictions.

VIII. Article IV Consultation:

The previous Article IV consultation discussions were held in December 2009. The staff report (IMF Country Report No. 10/73) was discussed by the Executive Board on January 25, 2010.

IX. FSAP Participation and ROSCs:

The data model of the ROSC (IMF Country Report No. 04/96) was issued in April 2004; a fiscal transparency ROSC (available at <http://www.imf.org/external/np/rosc/ind/fiscal.htm>) was issued in February 2001. The authorities have agreed to a second FSAP in 2011.

X. Technical Assistance:

Department	Purpose	Date of Delivery
MAE	Government securities market	2/94
MAE	Foreign exchange market	2/95
FAD	Expenditure control	5/95
FAD	Public expenditure management	8/95
FAD	Public expenditure management (follow-up)	5/96
MAE	Government securities market (follow-up)	7/96
STA	SDDS and statistics	12/96
STA	Balance of payments statistics	12/97
STA	SDDS and statistics	2/98
FAD	State level fiscal database and debt register	11/04
FAD	Pilot study on public private partnerships	12/04
STA	Balance of payments statistics	9/05
LEG	AML/CFT	5/08
LEG	AML/CFT	10/08

XI. Outreach and Other Activities:

Department	Purpose	Date of Delivery
APD	Training: Revenue Forecasting	5/05
APD	Seminar: Going Global: India's Emerging Role in the World Economy at Centro di Studi Internazionali sull'Economia e lo Sviluppo	6/06
APD	Book: <i>India Goes Global: Its Expanding Role in the World Economy</i>	8/06
APD	Brookings Institution Panel: Is India's High Growth Sustainable?	4/07
APD	Book: <i>India: Managing Financial Integration and Growth</i>	6/08
APD	Seminar: "Have We Seen this Movie Before? Comparing The Crisis of 2008 with East Asia 1998", presented at ICRIER/IM-Welt conference and Yale Initiative on Asian and International Relations	11/08
APD	Seminar: "Forecasting Growth and Inflation: China and India", presented in New Delhi	10/09
APD	Seminars: "What are the Effects of Fiscal Policy Shocks in India?" and "The global financial crisis: Explaining cross-country differences in the output impact", presented at the 6 th NIPFP-DEA Research Conference, New Delhi	03/10

XII. Resident Representative:

A resident representative's office was opened in November 1991. Mr. Sanjaya Panth has been Senior Resident Representative since August 2008.

ANNEX IV: INDIA—RELATIONS WITH THE WORLD BANK GROUP

In Bank FY2010 (July 1-June 30), IBRD/IDA lending totaled \$9.31 billion, markedly above the \$2.24 billion in FY2009. IFC committed \$1.8 billion in FY2010, up from \$947 million in FY2009. The World Bank Group's (WBG) Country Strategy (CAS) for India for 2009-2012 focuses on helping India to fast-track the development of much-needed infrastructure and to support the seven poorest states in achieving higher standards of living for their people. The strategy envisaged a total proposed International Bank for Reconstruction and Development (IBRD) lending program of US\$14.6 billion for the four-year CAS period, of which approximately \$3 billion additional IBRD financing was projected for lending in response to the financial crisis. The International Development Association (IDA) V allocation was \$4.79 billion (SDR equivalent of 2.919 billion).

As a result of the financial crisis as well as increased Government demand for the Bank Group's support, the pace of IBRD lending has been faster than initially expected, bringing India closer to its Single Borrower Limit (SBL) of \$17.5 billion earlier than anticipated. This has resulted in a revised lending scenario that projects approximately US\$8 billion in IBRD lending in FY11 and FY12. To help maintain India's IBRD net exposure within the SBL and ensure medium term sustainability of the India program, the Government has agreed on purchases of IBRD Special Private Placement Bonds. IFC is also carefully managing its exposure in India via mobilization and selectivity, and is focusing on projects with strong development additionality. IFC's management agreed, on an exceptional basis, to allow India to exceed the economic capital limit set for BRIC countries

The overarching objective of the CAS is to scale up the development impact of Bank Group assistance to help India achieve rapid, inclusive growth and sustainable development, and improving service delivery. It aims to do all this while strengthening weaknesses in project implementation, improving the effectiveness of public spending, and achieving demonstrable results to scale up the impact of World Bank assistance. The diversity of India calls for a differentiated, tailored approach. In India's low-income states and lagging regions in more advanced states, the focus is on achieving the MDGs, relying primarily on IDA resources and non-lending technical assistance (TA). In more advanced states and at the central level, the focus is on strengthening institutions so that they can deal with emerging middle income challenges, relying on IBRD lending and cutting-edge analytical work. IFC's strategy supports inclusive growth by increasing access to infrastructure and finance, focusing on low-income, rural, and fragile regions and making climate change central to its work.

The India Program is increasingly focused on supporting large, transformative development programs, such as the River Basin, Rural Roads II and National Livelihoods operations, innovative pilots such as the Karnataka Watershed and the Social Security for the Unorganized Sector Workers operations, and the leveraging of Bank resources. The shift to a more substantial engagement has raised the visibility and influence of the Bank Group, while creating opportunities for greater focus on public policy and institutional reform.

India: World Bank Group Financial Operations

	(In millions of U.S. dollars)1/
	2009/10
Commitments 2/	7,115
IBRD	5,481
IDA	1,634
Disbursement	2,360
IBRD	1,319
IDA	1,041
Repayments	1,264
IBRD	457
IDA	807
Debt outstanding and disbursed	34,070
IBRD	8,613
IDA	25,457

Source: World Bank.

1/ On an Indian fiscal year basis beginning April 1.

2/ Based on loan approval date.

ANNEX V: INDIA—RELATIONS WITH THE ASIAN DEVELOPMENT BANK

The Asian Development Bank (AsDB) operations in India began in 1986. Cumulative public sector loan commitments totaled \$22.3 billion as of 24 November 2010 for 139 loans. With an additional \$1.6 billion in private sector loans (the latter without government guarantee), total loan commitments on a cumulative basis amount to \$23.9 billion. These funds have been provided from the Bank's ordinary capital resources (OCR). Also, AsDB has approved equity investments amounting to \$0.3 billion. AsDB's lending and equity activities are summarized below.

India: Asian Development Bank Financial Operations
(In millions of U.S. dollars, as of 24 November 2010)

Calendar Year	OCR Loan Commitments	Private Equity	Disbursements
1986–90	2,317.6	15.9	338.7
1991–95	3,364.0	59.5	2,131.3
1996	763.0	--	591.7
1997	563.0	15.5	645.0
1998	250.0	--	620.4
1999	625.0	--	605.3
2000	1,330.0	--	487.0
2001	1,500.0	--	269.9
2002	1,163.6	15.0	576.5
2003	1,411.0	0.7	658.0
2004	1,200.0	29.7	381.4
2005	367.3	15.0	641.0
2006	1,260.0	67.6	701.4
2007	1,232.1	--	1,363.5
2008	1,777.6	18.6	1,507.7
2009	1,711.0	40.0	1,338.9
2010 (as of 24 Nov)	1,422.6	0.0	1,188.4
Total	22,257.8	277.3	14,046.1

Source: Asian Development Bank.

AsDB's India Country Partnership Strategy (2009-2012) (CPS) is based on four strategic pillars: (i) Support for the process of inclusive and environmentally sustainable growth; (ii) Catalyzing investment through the use of innovative business and financing modalities; (iii) Strengthening the results orientation of project design and implementation and emphasizing knowledge solutions; and (iv) Support for regional cooperation. The CPS has been designed to support Government of India's efforts in facilitating inclusive growth and speeding up the pace of poverty reduction and social development as emphasized in the Eleventh Five-Year Plan (2007-2012). It has been prepared within a results-based framework, and aims at significantly strengthening AsDB support for infrastructure development in the relatively poorer states of India, promoting public private partnerships in infrastructure, supporting climate change adaptation and mitigation, and encouraging the use of innovative financing modalities (non-sovereign loans and cofinancing) to enhance the leverage of AsDB operations.

ANNEX VI: INDIA—STATISTICAL ISSUES

1. Macroeconomic statistics are adequate for surveillance, but weaknesses remain in the timeliness and coverage of certain statistical series. India has an intricate system for compiling economic and financial statistics and produces a vast quantity of data covering most sectors of the economy. India subscribed to the Special Data Dissemination Standards (SDDS) on December 27, 1996 and started posting its metadata on the Dissemination Standards Bulletin Board on October 30, 1997. It is currently in observance of the SDDS, although it uses flexibility options for timeliness of data on general government operations and on the periodicity and timeliness of labor market data.
2. The data module of the Report on Observance of Standards and Codes (ROSC, IMF Country Report No. 04/96) was published in April 2004. It assesses India's data dissemination practices against the SDDS requirements and assesses the quality of six datasets based on the Data Quality Assessment Framework (DQAF) developed by STA.
3. **National accounts and employment statistics:** The Central Statistical Organization (CSO) releases a new series of national accounts, with base year 2004–2005 with a dissemination lag for quarterly releases of two months. Estimates of value added in constant prices for public administration and defense may be biased upwards, as they are based on the government's wage bill (with arrears counted in the year that they are paid) deflated by the Wholesale Price Index (WPI). There are long standing deficiencies in employment data: they are only available on an annual basis and with a substantial lag, and they only cover the formal sector, which accounts for a small segment of the labor market.
4. **Price statistics:** Since January 2006, the Labour Bureau has published a CPI for industrial workers with a 2001 base year. A revised CPI with new weights is expected to be unveiled in early 2011. Presently, there are four CPIs, each based on the consumption basket of a narrow category of consumers (namely industrial workers, urban and nonmanual employees, agricultural laborers, and rural laborers). The CPIs are published with a lag of about one month. With the exception of the industrial workers CPI, the other indices are based on weights that are over ten years. The WPI was also recently revised and has a 2004/05 base year. The primary articles components of the WPI are published weekly with a lag of two weeks. Despite recent progress, real estate and housing price data are not available on a timely basis and the geographic coverage remains limited.
5. **External sector statistics:** While the concepts and definitions used to compile balance of payments statistics are broadly in line with the fifth edition of the *Balance of Payments Manual (BPM5)*, the RBI presentation does not strictly follow the *BPM5*. Furthermore, trade data have quality, valuation, timing, and coverage problems, and data on trade prices, volumes, and composition are not regularly available on a timely basis. Only trade credit extended for more than 180 days is included in the balance of payments (and the IIP and external debt data); trade credit is often less than 180 days in most countries. Bilateral data on services exports to the United States and other developed countries are manifold higher than counterpart services imports published by these same countries. External debt statistics are available on a quarterly basis with a one quarter lag. Estimates of short-term external debt are presented in the debt statistics on an original maturity

basis. The short-term maturity attribution on a residual maturity basis is only available annually (and excludes residual maturity of medium- and long-term nonresident Indian accounts). The international investment position (IIP) statistics cover the sectors prescribed in the *BPM5* and these data are disseminated within six months of the reference period in respect of annual data. Coverage of direct investment positions data is hampered by the absence of appropriate legal or institutional authority. India began disseminating the Data Template on International Reserves and Foreign Currency Liquidity as prescribed under the SDDS in December 2001. The more up-to-date information on certain variables, such as total foreign reserves, foreign currency assets, gold, and SDRs, are available on a weekly basis and are disseminated as part of a weekly statistical supplement on the RBI web site.

6. **Monetary and financial statistics:** The RBI web site and the *RBI Bulletin* publish a wide array of monetary and financial statistics, including reserve money and its components, RBI's survey, monetary survey, liquidity aggregates (outstanding amounts), interest rates, exchange rates, foreign reserves, and results of government securities auctions. The frequency and quality of data dissemination have improved substantially in recent years.

7. Concepts and definitions used by the RBI to compile monetary statistics are in broad conformity with the guidelines provided in the *Monetary and Financial Statistics Manual (MFSM)*. Nevertheless, the following concepts and principles deviate from the *MFSM*. First, the resident sector data do not provide sufficient information on the sectoral distribution of domestic credit. Specifically, under their present sectorization scheme, the authorities subdivide the resident nonbank sector data by (i) central government; (ii) state government; and (iii) the commercial sector (including other financial corporations, public and other nonfinancial corporations, and other resident sectors). Second, commercial banks add accrued interest to credit and deposit positions on a quarterly basis only (instead of the prescribed monthly basis).

8. The RBI reports monetary data for *IFS* on a regular basis. Since October 2006, the RBI has initiated the electronic reporting of monetary data, which is a major improvement from the previous paper-based reporting which was prone to errors and delays. India has also submitted to STA test data (starting from December 2001 data) on the Standardized Report Forms (SRFs) that have been developed to implement the methodology outlined in the *MFSM*. STA is working with the authorities in resolving the outstanding data issues on the development of the SRFs.

9. **Fiscal operations:** The Ministry of Finance (MoF) posts selected central government monthly fiscal data and quarterly debt data on its web site. However, no monthly data on fiscal performance at the state level are available, and annual data are available only with an 8-month to 10-month lag. Consolidated information is unavailable on local government operations. In addition, data on the functional and economic classification of expenditures are available with considerable lag. There is also scope to improve the analytical usefulness of the presentation of the fiscal accounts. For example, classification of government expenditure between developmental/nondevelopmental and plan/nonplan obscures the economic nature and impact of fiscal actions. The MoF reports central government data (on a cash basis) for publication in the *Government Finance Statistics Yearbook* (latest reported data correspond to 2006).

India—Table of Common Indicators Required for Surveillance

As of December 18, 2009

	Date of latest observation	Date received	Frequency of Data 1/	Frequency of Reporting 1/	Frequency of Publication 1/	Memo Items 2/	
						Data Quality—Methodological soundness 2/	Data Quality—Accuracy and reliability 3/
Exchange rates	12/18/09	12/18/09	D	D	D		
International reserve assets and reserve liabilities of the monetary authorities 4/	12/18/09	12/25/09	W	W	W		
Reserve/base money	12/18/09	12/25/09	W	W	W	O, O, LO, LO	O, O, O, O, O
Broad money	12/04/09	12/25/09	BW	BW	W		
Central bank balance sheet	Mar. 09	08/27/09	A	A	A		
Consolidated balance sheet of the banking system	Mar. 09	09/15/09	A	A	A		
Interest rates 5/	12/18/09	12/18/09	D	D	D		
Consumer price index	Nov. 09	12/24/09	M	M	M	O, LNO, O, O	LNO, LO, O, O, O
Revenue, expenditure, balance and composition of financing 6/— General Government 7/	Mar. 09	09/15/09	A	A	A	LNO, LO, O, O	O, O, O, O, LO
Revenue, expenditure, balance and composition of financing 6/— Central Government	Oct. 09	12/01/09	M	M	M		
Stocks of central government and central government-guaranteed debt 8/	Mar. 09	09/15/09	A	A	A		
External current account balance	Mar-Jun. 09	10/08/09	Q	Q	Q	LO, O, LO, O	LO, O, O, O, LO
Exports and imports of goods and services	Mar-Jun. 09	10/08/09	Q	Q	Q		
GDP/IGNP	Jul-Sep. 09	12/01/09	Q	Q	Q	LO, LNO, LO, LO	LNO, LNO, O, O, LO
Gross external debt	Mar-Jun. 09	12/01/09	Q	Q	Q		

1/ Daily (D), Weekly (W), Biweekly (BW), Monthly (M), Quarterly (Q), Annually (A), Irregular (I); Not Available (NA).

2/ Reflects the assessment provided in the data ROSC (published on April 2, 2004, and based on the findings of the mission that took place during May 13–30, 2002) for the dataset corresponding to the variable in each row. The assessment indicates whether international standards concerning concepts and definitions, scope, classification/sectorization, and basis for recording are fully observed (O), largely observed (LO), largely not observed (LNO), or not observed (NO).

3/ Same as footnote 2, except referring to international standards concerning source data, statistical techniques, assessment and validation of source data, assessment and validation of intermediate data and statistical outputs, and revision studies.

4/ Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.

5/ Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.

6/ Foreign, domestic bank, and domestic nonbank financing.

7/ The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state governments.

8/ Including currency and maturity composition.



INTERNATIONAL MONETARY FUND

Public Information Notice

EXTERNAL
RELATIONS
DEPARTMENT

Public Information Notice (PIN) No. 11/2
FOR IMMEDIATE RELEASE
January 5, 2011

International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2010 Article IV Consultation with India

On December 22, 2010, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with India.¹

Background

India's growth is among the highest in the world. Since mid-2009 the pace of India's recovery—led by domestic demand, especially infrastructure investment—has been strong. Monetary and fiscal policies remain accommodative: real interest rates are low and although there has been some fiscal consolidation, the fiscal deficit remains high. With little slack in the economy, the ongoing exit from the policy stimulus introduced during the crisis, and structural factors affecting food prices, inflation measures are in the 8½ to 10½ percent range. Financial conditions are comfortable, and capital inflows have been strong.

India's economy is projected to grow by 8¾ percent in real terms in 2010/11, moderating to about 8 percent the following year. Following last year's drought, this year's growth is already benefiting from the rebound in agriculture and the pickup in private consumption as employment prospects have improved and disposable incomes continue to rise. Infrastructure is expected to remain an important growth driver and corporate investment is likely to accelerate, aided by conducive financing conditions and robust demand growth. India's medium-term growth prospects remain strong. The economy is expected to continue to expand rapidly, supported by high investment and productivity gains.

¹ Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board. At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: <http://www.imf.org/external/np/sec/misc/qualifiers.htm>.

Risks to growth are broadly balanced, with downside risks relating mainly to the global economy. Surging capital inflows could further spur investment, but could complicate macroeconomic management. Sustaining rapid growth over the medium term will depend on sustaining reforms to facilitate infrastructure investment—such as deepening the corporate bond market and lowering the cost of doing business—and improving social indicators while carrying out fiscal consolidation. Improving social outcomes and infrastructure are two key pillars of the government’s strategy to achieve rapid and inclusive growth.

Executive Board Assessment

Executive Directors commended the authorities for their economic stewardship which has helped India weather the crisis well. Growth is among the fastest growing in the world, social indicators are improving, and medium-term economic prospects are favorable. Risks stem mainly from weaker global growth. Near-term challenges confronting the authorities arise from elevated inflation, fiscal consolidation needs, and buoyant capital inflows, warranting careful calibration of macroeconomic policies and the diligent pursuit of ongoing reforms.

Directors commended the Reserve Bank of India’s (RBI) efforts to tighten monetary conditions. Noting that short-term real interest rates remain below historic norms and financing conditions have hardened only marginally, most Directors recommended further steps to bring the real repo rate clearly into positive territory. They welcomed the RBI’s moves to increase the frequency of policy reviews and publish more guidance on future actions. Most Directors considered that continuing to improve the CPI, including a new national CPI to be introduced in the future, and utilizing information from it in policymaking could increase the impact of monetary policy on inflation expectations. Directors also highlighted the role of structural reforms in containing food price inflation.

Directors welcomed the authorities’ commitment to fiscal consolidation, including their plans to streamline spending. The envisaged Goods and Services Tax and the new Direct Tax Code should increase tax efficiency. Given buoyant economic growth, and since future deficit targets could be more difficult to reach, most Directors saw merit in a further strengthening of the consolidation effort. Saving this year’s over performance in revenue and one-off receipts could help reconstitute fiscal space. More substantial current spending adjustment, mainly by further cutting subsidies and improving the targeting of spending, would help achieve social goals along with medium-term fiscal consolidation. A few Directors favored an appropriate balance between pacing the consolidation and sustaining growth by addressing the exigencies of infrastructure investment and social spending.

Directors observed that low yields in advanced economies and India’s favorable growth differentials could raise capital inflows above its absorptive capacity. While exchange rate flexibility would remain the first line of defense, reserve accumulation and macroprudential measures could be employed if strong inflows continue. Absorptive capacity could also be improved by deepening financial markets or by liberalizing foreign direct investment (FDI), consistent with India’s gradual approach to capital account liberalization.

Directors supported the authorities' focus on strengthening financial stability, including efforts to strengthen macroprudential regulations to cool the residential real estate market and to ensure a regulatory level playing field across the financial industry. While India's banking system is resilient and well capitalized, Directors noted that monitoring asset quality will remain important, particularly as prudential norms for infrastructure are eased. They commended the introduction of the RBI's Financial Stability Report, the announced review of financial laws, and the creation of the Financial Stability and Development Council, and looked forward to the forthcoming Financial Sector Assessment Program.

Directors welcomed the emphasis on investment in infrastructure and human capital. They supported the measures taken to increase the availability of long-term finance for infrastructure, especially moves to develop the corporate bond market, while noting that in the short run foreign savings also would be needed. Directors supported the authorities' reform efforts in areas such as land acquisition and government clearances, while also stressing the importance of strong accountability and transparency over large infrastructure projects.

Public Information Notices (PINs) form part of the IMF's efforts to promote transparency of the IMF's views and analysis of economic developments and policies. With the consent of the country (or countries) concerned, PINs are issued after Executive Board discussions of Article IV consultations with member countries, of its surveillance of developments at the regional level, of post-program monitoring, and of ex post assessments of member countries with longer-term program engagements. PINs are also issued after Executive Board discussions of general policy matters, unless otherwise decided by the Executive Board in a particular case.

India: Selected Economic Indicators, 2006/07–2010/11 1/

	2006/07	2007/08	2008/09	2009/10 Prel.	2010/11 Proj.
Growth (y/y percent change)					
Real GDP (at factor cost)	9.7	9.2	6.7	7.4	8.8
Industrial production	11.5	8.5	6.7	10.5	...
Prices (y/y percent change, average)					
Wholesale prices (2004/05 weights)	5.5	4.6	8.3	3.5	8.5
Wholesale prices (2004/05 weights, end of period)	6.8	7.7	1.5	10.2	6.5
Consumer prices - industrial workers (2001 weights)	6.7	6.2	9.1	12.7	10.8
Saving and investment (percent of GDP)					
Gross saving 2/	34.5	36.4	33.9	32.1	34.4
Gross investment 2/	35.5	37.7	36.2	35.0	37.7
Fiscal position (percent of GDP) 3/					
Central government deficit	-4.3	-3.1	-7.5	-6.8	-6.6
General government deficit	-6.1	-4.4	-10.8	-10.4	-9.6
General government debt 4/	77.7	75.0	75.0	76.8	75.0
Money and credit (y/y percent change, end-period) 5/					
Broad money	21.3	21.4	19.3	16.8	17.7
Credit to commercial sector	25.7	21.1	16.9	15.9	20.2
Financial indicators (percent, end-period) 6/					
91-day treasury bill yield	8.0	7.2	5.0	4.4	6.9
10-year government bond yield	8.0	7.9	7.0	7.8	8.1
Stock market (y/y percent change, end-period)	15.9	19.7	-37.9	80.5	15.3
External trade 7/					
Merchandise exports (US\$ billions)	128.9	166.2	189.0	182.2	229.4
y/y percent change	22.6	28.9	13.7	-3.6	25.9
Merchandise imports (US\$ billions)	190.7	257.6	307.7	299.5	380.6
y/y percent change	21.4	35.1	19.4	-2.7	27.1
Balance of payments (US\$ billions)					
Current account balance	-9.6	-15.7	-28.7	-38.4	-49.9
(in percent of GDP)	-1.0	-1.3	-2.4	-2.9	-3.3
Foreign direct investment, net	7.7	15.9	17.5	19.7	23.6
Portfolio investment, net (equity and debt)	7.1	27.4	-14.0	32.4	31.8
Overall balance	36.6	92.2	-20.1	13.4	28.6
External indicators					
Gross reserves (in billions of U.S. dollars, end-period)	199.2	309.7	252.0	279.1	307.7
(In months of imports) 8/ 9/	7.7	10.3	8.4	7.5	7.3
External debt (percent of GDP, end-period)	18.2	18.3	19.1	19.5	19.2
Of which: short-term debt 9/	3.7	6.8	7.5	8.0	8.2
Ratio of gross reserves to short-term debt (end-period) 9/	5.7	3.7	2.8	2.7	2.5
Gross reserves to broad money (percent; end-period)	26.2	30.9	26.6	22.4	...
Debt service ratio 10/	4.9	5.3	5.2	5.0	5.1
Real effective exchange rate					
(y/y percent change, period average for annual data)	-1.7	7.3	-7.7	-0.5	...
Exchange rate (rupee/US\$, end-period) 6/	43.5	40.1	50.7	45.0	45.9

Sources: Data provided by the Indian authorities; CEIC Data Company Ltd; Bloomberg L.P.; *World Development Indicators*; and IMF staff estimates and projections.

1/ Data are for April-March fiscal years.

2/ Differs from official data, calculated with gross investment and current account. Gross investment includes errors and omissions.

3/ Divestment and license auction proceeds treated as below-the-line financing. Subsidy related bond issuance classified as expenditure.

4/ Includes combined domestic liabilities of the center and the states, inclusive of MSS bonds, and external debt at year-end exchange rates.

5/ For 2010/11, as of October 2010.

6/ For 2010/11, as of November 2010.

7/ On balance of payments basis.

8/ Imports of goods and services projected over the following twelve months.

9/ Short-term debt on residual maturity basis, including estimated short-term NRI deposits on residual maturity basis.

10/ In percent of current account receipts excluding grants.

**Statement by Arvind Virmani, Executive Director for India
and Michael Patra, Advisor
December 22, 2010**

1. Our authorities convey their appreciation for the constructive engagement with the Article IV Mission during the mid-year review and in the annual Consultations. They found the discussions on various aspects of the Indian economy and the evolving outlook useful and open-minded. The broad thrust of staff's policy advice in several areas is consistent with our views. Issues on which there are differences in views are set out in the staff report, attesting to the frankness and candour that marked the discussions. In this statement, we dwell on these specific areas with a view to explaining the rationale underlying our authorities' positions.

Macroeconomic Outlook

2. Potential growth/underlying trend growth of the economy by our calculations is 8.5 to 9.0 percent.¹ Any upside potential depends on the global recovery and faster domestic policy and institutional reform. Staff's analysis of India's growth based on mean reversion to 8.0 percent is less than convincing. Recovery to high growth has been somewhat faster than expected in 2009-10 and in the first half of 2010-11. Lead indicators point to even stronger growth in the second half of 2010-11 with the full year projection at 8.75 percent (+/- 0.35 percent).

Inflation and Monetary Policy

3. Inflation in terms of both wholesale prices and consumer prices has been declining in recent months. Inflation is expected by the Reserve Bank of India (RBI) to come down further to 5.5 percent by March 2011, but food price inflation remains relatively high and may influence inflation expectations. Monetary policy has to take account of these factors in addition to aggregate demand pressures. On the basis of the March 2011 inflation projection serving as a measure of inflation expectations, the policy rate – currently at 6.25 percent – is positive in real terms and set to rise further with inflation receding as policy transmission becomes more completely reflected in lending rates. In this context, it is important to remember that estimates of the Taylor rule vary considerably and application depends on estimates/assumptions of potential growth and the inflation threshold.²

Fiscal Policy

4. Since the enactment of the Fiscal Responsibility and Budget Management (FRBM) Bill in 2004, our authorities have been committed to reducing the fiscal deficit. The fiscal outcome for 2007-08 before the global crisis was ahead of target. The Central Government's fiscal deficit was down to 2.6 percent of GDP and the State Governments' fiscal deficit to 1.5 percent of GDP.

¹ *Growth and Sustainability in Brazil, China, India, Indonesia and South Africa*, OECD, 2010.

² A Monetary Policy Model Without Money for India, *IMF Working Paper* 10/183, August 2010

5. When the global crisis struck in 2008-09, a conscious decision was made to offset the reduction in net exports, and private investment and consumption by a fiscal expansion of 3.3 percent of GDP in 2008-09 and of 3.9 percent of GDP in 2009-10, which helped limit the contraction to real GDP growth of 6.7 percent in 2008-09 and 7.5 percent in 2009-10. The 2009-10 Central Government's budget laid out a path for returning to the time line of FRBM targets. We will meet the fiscal deficit target of 5.5 percent in 2010-11 and the targets for the next two years. Guided by the recommendations of the thirteenth Finance Commission, the States' combined fiscal deficit is also set on a path that will take it down to 3 percent of GDP within the next four years. A third important target is to reduce the debt/GDP ratio of the general Government from the current level of 73 percent to 65 percent by 2014-15. The process of fiscal consolidation envisages a balanced mix of expenditure reduction and revenue growth.

6. Available information indicates that fiscal consolidation is proceeding as planned. Over the first seven months of the fiscal year 2010-11, i.e., April-October 2010, the fiscal deficit is only 42.6 percent of the budget estimates for the full year while the revenue deficit is only 34.3 percent. Underlying this healthy development is the buoyant growth of 26 percent in net tax revenues. While non-tax revenues have risen by 119 percent on account of 3G and broadband wireless spectrum auctions, these receipts would hold up at their levels in the corresponding period of last year, even if these one-time receipts were excluded. Importantly, there is a significant deceleration in the growth of non-plan revenue expenditure. A simple calculation shows that even excluding these items, fiscal consolidation is following its charted course and given these indications, deficit targets set for the year will be met.

7. Consolidation is one of the most important components of fiscal policy in India. The estimated reduction in the fiscal deficit in 2010-11 is based on a set of fiscal measures that have been undertaken and is consistent with the announced path of consolidation. A further drastic reduction in public expenditure and the fiscal deficit may be counterproductive, and may have a negative impact on the economy and on the recovery. Our authorities are also of the view that any windfall gains during the course of the year should not be utilised for fiscal consolidation alone but also for much needed physical and social infrastructure requirements.

External Sector

8. Given weak global growth contrasted with relatively high growth in India and associated demand for imports, a widening in the current account deficit (CAD) is not unexpected. This increase in the CAD has also made an important contribution to global net demand. However, a rise of the CAD above 3 percent would increase the risks arising from volatility of capital flows. In this context, the policy of building reserves over the last few years has been vindicated and can be recommended to other countries with CADs financed by capital flows.

9. Our position is that capital account liberalization is not a stand-alone objective but a means for higher and stable growth. We believe our economy should move towards greater capital account liberalization along a gradual path - the path itself being recalibrated on a dynamic basis in response to domestic and global developments. No policy instrument is

clearly off the table and our choice of instruments will be determined by the context. Historically, we have used policy levers on the debt side of the flows to manage volatility. Contrary to popular perception, we have used both quantity and price based variables to moderate debt flows. As regards exchange rate policy, we are not guided by a fixed or pre-announced target or band. Our policy has been to intervene in the market to manage excessive volatility and disruptions to the macroeconomic situation. Two way movements are a clear demarcation of our flexible exchange rate policy.

Infrastructure

10. In order to meet the requirements of sustainable and inclusive growth, investment in physical infrastructure needs to go up from 5 per cent of GDP (2002-07) to about 9 per cent (2007-12). By current assessment, the level of investment in infrastructure has risen to about 7.1 percent of GDP. This investment is being driven significantly by public-private partnerships, with the level of private involvement of around 30 percent. The development of the corporate bond markets should facilitate a further increase in infrastructure investment by the private sector. Accelerating the pace of infrastructure development remains the highest priority.

Conclusion

11. India's domestic demand-led economy is rising back to its high growth trend. Inflation is easing but will warrant continuous monitoring. Growth differentials *vis-à-vis* the global economy are being reflected in an expansion in the current account deficit. So far, surges in capital flows have been absorbed into financing a higher level of net imports. Given the volatility of cross-border capital flows, macroeconomic management will have to ensure that risks are minimized.